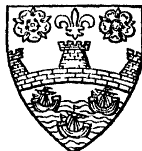
A Concise Guide to the Town and University of Cambridge

In an Introduction
and four Walks

Originally written
By
John Willis Clark
M.A., Hon. Litt.D. (Oxf.), F.S.A.
Late Registrary of the University
and Fellow of Trinity College



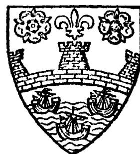


Sixth Edition

Cambridge
Bowes and Bowes
1919

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PREFACE.

IN the *Concise Guide* here offered to the public, I do not profess to give an exhaustive account of Cambridge, but merely to draw the attention of a Visitor, who has only a short time at his disposal, to those places and things which appear to me to be the most important. With his convenience in view, I have made my descriptions as brief as possible; I have given no historical references; and I have rigorously excluded all matters requiring special knowledge or detailed examination. In one direction only have I attempted fuller accounts than are usually to be found in guide-books. With the kind cooperation of the Professors and others (whom I take this opportunity of thanking) I have described in some detail the Scientific Museums and Laboratories which of late years have been so largely developed by the University; as also the Botanic Garden, the Observatory, the Fitzwilliam Museum, and the Museum of General and Local Archæology and of Ethnology. Students who require fuller information on the history of the Town and the University are referred to the following works:

The Architectural History of the University. By the late Rob. Willis, M.A., edited by J. W. Clark, M.A., Camb. 1886.

Cambridge described and illustrated. By T. D. Atkinson. Camb. 1897.

The University of Cambridge. By J. B. Mullinger. Vols. I and II. Camb. 1873—84.

I have often heard strangers complain of the loss of time entailed by the difficulty of finding their way about Cambridge. I have therefore constructed Four WALKS, in the course of which, with the help of the Plan, everything of importance can be at least looked at; and, lastly, for the convenience of those who are too much hurried to undertake these, I have constructed a Fifth WALK, in which those places only are mentioned which in my judgment are indispensable.

I have prefixed to these walks an Introduction, in which I have attempted to trace, very briefly, the history of the Town, the University, and the Colleges; and I have appended to them a Chronological Table, divided into the reigns of sovereigns, in which I have included a few leading events of general importance, to serve as landmarks to connect the history of the Town and University with that of the Kingdom.

The friends who have helped me in the preparation of this work are too numerous to mention individually; and I must ask them to accept this collective expression of my gratitude. Special thanks are due to:

1. The Syndics of the Cambridge University Press, for permission to use the text of their *Architectural History of the University and Colleges*—a permission of which I have largely availed myself—, and also for the loan of the following woodcuts:

North West corner of the exterior of the Old Court of King's College (p. 22), Library of Trinity Hall (p. 26), Gate of Virtue (p. 29), Bookcases in Library of S. John's College (p. 59), Old Hall, Corpus Christi College (p. 121), Tower of S. Benedict's Church (p. 123), River Front of Queens' College (p. 131).

2. The Cambridge Antiquarian Society, for the loan of a woodcut from their *Proceedings and Communications:*

Section of the Castle Hill (p. 72).

3. Messrs Cassell and Co., for the loan of the following woodcuts:

Great S. Mary's Church (p. 4), King's College Chapel, S. Porch (p. 12), Do. interior (p. 13), S. John's College Chapel (p. 51), Round Church, exterior (p. 63), Fitzwilliam Museum (p. 108), Pitt Press (p. 119).

4. Messrs Macmillan and Co., for the loan of a woodcut from Green's *Short History*:

Round Church, interior (p. 63).

5. Messrs Seeley and Co., for the loan of the following woodcuts from *Cambridge: Brief historical and descriptive Notes*, by J. W. Clark, M.A.

Clare College, Gateway in East Range (p. 23), Trinity College, Great Court (p. 41), S. John's College, Third Court (p. 60), Magdalene College, Pepysian Library (p. 68), Christ's College Garden (p. 86), Jesus College, Entrance-gateway (p. 95).

I proceed in the next place to give an outline of the WALKS, with the page of the volume on which each place mentioned is described. The names of those places that are merely alluded to in passing are indented, and marked with an asterisk. This enumeration serves also as a table of contents.

August, 1910. JOHN WILLIS CLARK.

PUBLISHERS' NOTE TO THE FIFTH EDITION.

The collection of the material for each successive edition of the *Concise Guide to Cambridge* was made by the late Mr J. W. Clark, that for the fourth edition having been brought together by him in 1910, the year of his death. Being desirous of following in this *fifth* edition the lines laid down by Mr Clark, we have had to apply to a competent authority in each case, and we must gratefully acknowledge the courteous and ready response that we have received either direct or through Mr H. F. Bird, who has kindly helped us. Many changes have been made in the Museums, and we have prepared a new Plan based on the best authority. By the kind permission of the Master of Christ's and of his publishers, Messrs Smith Elder & Co., to use if necessary the Plan in the Mémoir of Mr J. W. Clark, we have compared it with our plan which has been prepared independently. The general plan of the Town has also been brought up to date, and besides the alterations introduced in the body of the *Guide*, we have on pp. xxv–xxviii given a list of certain additions made since the publication of the fourth edition.

July, 1916. BOWES & BOWES.

PUBLISHERS' NOTE TO THE SIXTH EDITION.

As building operations have been almost suspended during the War, the present issue is practically a reprint of the Fifth Edition, with certain minor alterations designed to bring the work up to date.

July, 1919. BOWES & BOWES.

FIRST WALK.

SECOND WALK.

THIRD WALK.

FOURTH WALK.

FIFTH WALK.

(*Supplementary.*)

CAB FARES.

The following rates or fares shall be paid for hackney coachos and other carriages licensed to ply for hire.

The hirer shall decide whether the hiring is to be taken by time or distance, but if nothing be said on the subject it shall be taken to be by distance.

Fares for Time.

Period of Time.	Description of Carriage and No. of Passengers to be carried.					
	Carriage drawn by one horse, conveying not more than two persons		Carriage drawn by two horses, conveying not more than two persons.		Carriage drawn by one horse, conveying more than two persons, for each additional person beyond that number	
	s	d	s.	d	s.	d.
If the time does not exceed one hour	2	0	4	0		
If the time exceeds one hour .						
For the first hour	2	0	4	0		
For each succeeding quarter of an hour	0	6	1	0		
For each succeeding period of seven and a half minutes	0	3	0	6		
For the whole time whatever period					0	6

Fares for Distance.

Distance.	Description of Carriage.			
	Carriage drawn by one horse, and conveying not more than two persons.		Carriage drawn by two horses, and conveying not more than two persons.	
	s.	d.	s.	d.
If the distance does not exceed one mile :				
For the whole distance	1	0	2	0
If the distance exceeds one mile ·				
For each mile completed	1	0	2	0
For each succeeding quarter mile or part thereof	0	3	0	6
For each additional person for the whole journey	0	6	0	6

Luggage carried outside charged for at rato of threepence per package.

Every driver of a hackney carriage shall afford all reasonable assistance in loading and unloading any luggage to be conveyed, or which has been conveyed, in or upon such carriage, and belonging to or in the charge of any person hiring or being conveyed in such carriage.

TAXI CABS.

Fares: For not more than two persons, 1/- per mile and 3*d.* per ¼ mile after first mile.

Charge for each additional person for the whole distance, 6*d.*

Charge for luggage at rate of 3*d.* for each package carried outside.

TIME TABLE.

A. SERVICES IN COLLEGE CHAPELS, &c.

Open on Week-days.	(During Term.)
	University Sermon, 2.30 p.m. at Great S. Mary's Church.
10 a.m.—4 p.m.	**King's College.** Sunday 10.30 a.m. 3.30 p.m. Week-days 5 p.m.
11 a.m.—1 p.m. 2.30—4 p.m.	**Trinity College.** Sunday 11 a.m. 6.45 p.m. Week-days 7.15 p.m.
11 a.m.—1 p.m. 2—3 p.m.	**S. John's College.** Sunday 10.15 a.m. 6.15 p.m. Week-days 6.45 p.m.
11.30 a.m.—12.30. 2—4 p.m.	**Jesus College.** Sunday 10.15 a.m. 7 p.m.

B. SERVICES IN PARISH CHURCHES.

* before an hour (e.g. *8 a.m) means that the Holy Communion will be celebrated at the Service indicated.

[1]**All Saints.**	Sunday *8 a.m. 11 a.m. *12 noon (1st in month) 6.30 p.m. Daily 6.30 p.m. except Wednesday, 8 p.m.
[1]**S. Andrew the Great.**	Sunday *8 a.m. 11 a.m. *12 noon (1st and 3rd), 6.30 p.m. Week-days 12 noon. Wednesday 8 p.m.
{ [3]**Christ Church.**	Sunday *8 a.m. 11 a.m. (*1st and 3rd), 6.45 p.m. (*2nd). Wednesday 7.30 p.m.
{ [2]**Abbey Church.**	Sunday *8 a.m. (2nd), 11 a.m. (*1st), 6.45 p.m. (*3rd).
[1]**S. Benedict.**	Sunday *8 a.m. 11 a.m. (*1st and 3rd), 6.45 p.m. Daily 11.30 a.m.
[1]**S. Botolph.**	Sunday *8 a.m. 11 a.m. *12 noon, 6.45 p.m. Week-days 10 a.m. and 6.30 (Wednesdays and Fridays).
[1]**S. Clement.**	Sunday *7.45 a.m. *10.30 a.m. 11.30 a.m. 6.45 p.m. Week-days *7.30 a.m. 8.30 a.m. 8 p.m.

[1] Open [2] See page 101. [3] Not open.

[1]S. Edward the King.	Sunday *8 a.m. *9.30 a.m. 11 a.m. *12 noon (2nd and 4th) 6.30 p.m. Daily *7.15 a.m. Tuesday *8.30 a.m. Monday, Wednesday and Friday 1.15 p.m. Thursday and Saturday 12.50 p.m.
[1]S. Giles.	Sunday *7 a.m. (1st), *8 a.m. *9.45 a.m. 10.30 a.m. *11 a.m. 6.45 p.m. Week-days *7.45 a.m. Wednesday and Friday 8 p.m. Other days 6 p.m.
[1]S. Mary the Great.	Sunday *10 a.m. (1st), 11 a.m. *12 noon, 6.45 p.m. Week-days 9.30 a.m. 6.30 p.m.
[2]S. Michael's.	Sunday *8 a.m.
[1]S. Mary the Less.	Sunday *8 a.m. 10.15 a.m. *11 a.m. (also *2nd 6 a.m.), 6.45 p.m. Week-days *7.30 a.m. 5.45 p.m. Monday, Tuesday, Friday and Saturday 8.10 a.m. Wednesday and Friday 10.15 a.m.
[2]S. Matthew's.	Sunday *8 a.m. 11 a.m. (*2nd and last), 3.15 p.m. (*1st), 6.45 p.m. Daily 8.30 a.m. Wednesday 8.15 p.m.
[1]S. Paul's.	Sunday *8 a.m. 11 a.m. (*1st), 3 p.m. *6.30 p.m. (*4th). Week-days 12 noon Wednesday and Friday. 7.30 p.m. Wednesday.
[3]Holy Sepulchre.	Sunday *8 a.m. *9 a.m. (5th) 11 a.m. (*1st and 3rd), 6.45 p.m. Week-days Wednesday 10.30 a.m. 7.30 p.m. Friday 10.30 a.m.
[1]Holy Trinity.	Sunday *8 a.m. 11 a.m. (*1st), 3 p.m. 6.45 p.m. (*3rd). Wednesday 7.30 p.m.

[1] Open. [2] Not open. [3] Open 10—4.

C. SERVICES IN OTHER CHURCHES.

Baptist.	S. Andrew's Street. Sunday 10.30 a.m. 6.30 p.m. Wednesday 7.30 p.m. Zion Chapel, East Road. Sunday 10.30 a.m. 6.30 p.m. Wednesday 7.30 p.m.
Congregational.	Emmanuel Church, Trumpington Street. Sunday 11 a.m. 6.45 p.m. Wednesday 8 p.m.
Presbyterian.	S. Columba's, Downing Street. Sunday 11 a.m. 6.30 p.m.
Roman Catholic.	Hills Road. Sunday *8.30 a.m. *11 a.m. 3.30 p.m. 6.30 p.m. Week-days: Monday *7.30 a.m. and *9.15 a.m. Other days *7.30 a.m. (Friday 8 p.m.).
Wesleyan.	King Street. Sunday 11 a.m. 6.30 p.m. Tuesday 7.30 p.m. Hills Road. Sunday 11 a.m. 6.30 p.m. Wednesday 7.30 p.m.

D. ADMISSION TO MUSEUMS.

Archæology and Ethnology: 2 p.m.—4 p.m.

Botany: 9.30 a.m.—5 p.m. (during Term).

Classical Archæology: opens 10 a.m. Closes 4 p.m. (Jan. Sept. Dec.); 4.30 p.m. (Feb. Mar. July, Aug. Oct. Nov.); 5 p.m. (April—June). Curator, A. B. Cook, M.A.

Fitzwilliam Museum: opens, week-days, 10 a.m.; Sundays, 2 p.m. Closes 4 p.m. (Sept. 1—Apr. 30); 5 p.m. (June 25—Aug. 31); 6 p.m. (May 1—June 24). Closed first Wednesday in each month. Director and Marlay Curator, S. C. Cockerell, M.A.

Geology, Sedgwick Museum: 9 a.m.—5 p.m.

Zoology, &c., Old Botanic Garden Site. Enquire of the Porter, J. Chapman, Free School Lane.

Botanic Garden: 8 a.m.—dusk, during the winter months; 8 a.m.—8 p.m. during the summer months: the precise hour being indicated by a notice posted at each gate. The plant-houses may be visited by strangers after 2 p.m. Curator, R. Irwin Lynch, M.A.

Christ's College Library (Robertson Smith, Oriental Books): 10—1 and 2.30—4.30 p.m.

Departmental Libraries, The Arts School (New University Lecture Rooms): Full Term, 9 a.m.—1.15 p.m.

Free Library: 8.30 a.m.—9 p.m.

Observatory: by application to the Director, Prof. A. S. Eddington.

Pepysian Library, Magdalene College: by written application to the Librarian, S. Gaselee, C.B.E.

Philosophical Library: Full Term, 10 a.m.—1 p.m. and 3 p.m.—6 p.m. During vacation, enquire of Library Clerk, S. Matthews.

St John's College Library: 10.30 a.m.—1.15 p.m., 2.30 p.m.—4 p.m.; 10.30 a.m.—1.15 p.m. Saturdays.

Solar Physics Observatory: by application to the Director, Prof. H. F. Newall.

Squire Law Library: 9.30 a.m.—1.30 p.m. and 3—5 p.m.; 9.30 a.m.—1.30 p.m. on Saturdays.

Trinity College Library: 2.30—3.30 (Nov. 15—Jan. 14) and 3—4 (Jan. 15—Nov. 14); if accompanied by a Fellow of the College, 11 a.m.—4 p.m.

Trinity Hall Library: 12—1 p.m. during Full Term.

University Library: 9.30 a.m.—3.30 p.m. 15 Nov. to 14 Jan.; 9.30 a.m.—4 p.m. 15 Jan. to 14 Nov.; 9 a.m.—2 p.m. on Saturdays. Librarian, F. J. H. Jenkinson, M.A.

N.B. Some of the above are closed for various periods during vacations.

INTRODUCTION.

IN the following Introduction I propose to give a general account of the Town, the University, and the Colleges; with the relations that subsist between those three bodies. Such an account need not be long; but without some explanation a visitor will lose much of the advantage that he would otherwise derive from his examination of the place and the buildings.

It is natural to imagine that the Town grew up very gradually, as an appanage to the University, just as the dwellings of retainers might nestle at the feet of a castle, or outside the gates of a monastery. This explanation of the relations of the Town to the University is less erroneous now-a-days than it was in the Middle Ages. It must be admitted that the University (in which term the Colleges are included) is the principal object of interest in Cambridge; and the most ardent supporter of the right of the Town to independence cannot deny that if the University did not exist there would be but little reason for the existence of the Town.

If, however, we transport ourselves back to a remote period, some seven or eight centuries ago, we shall find a town of peculiar and considerable importance before the University had come into existence. It was not "a marsh town," as it has been contemptuously designated, but it was

"a frontier town," beyond which stretched the great Fen, impassable except to those who were in the secret of its solitudes. It had a river—"the life of the trafficke to this Towne and Countie," as it could still be called in the reign of James the First—which enabled it to draw an inexhaustible supply of all the necessaries of life from the surrounding country, and also from the continent through the port of Lynn; it was traversed by one of the great roads which, whether Roman or not, led direct from London; it afforded, by its Great Bridge, a means of communication between the eastern counties of England and the midlands; and, lastly, it had a Fair which was one of the most extensive marts of the Middle Ages, and must have made it a much frequented centre of trade.

Ancient Cambridge was spread out along the right bank of the Cam from the Mills to the Great Bridge; and the busiest part of it lay between the street leading to those Mills and the river. Here were the numerous wharfs or hythes at which the merchandise brought in barges up the stream was landed, and the numerous lanes connecting the hythes with Milne Street or High Street. On the side remote from the river the extent of the town was defined by a ditch, called the King's Ditch, planned by King John, and completed by King Henry the Third in 1267. The area included between these boundaries was in shape like the section of a pear; and near the end where the stalk would grow was the Bridge, leading to a steep road which climbed the Castle Hill. Whatever may be the date of that mound, it seems certain that the castle at its foot was built on the site of a Roman settlement, as the antiquaries of the eighteenth century maintained; and, that the Norman castle was never more than a third-class fortress, which may have lent a certain dignity to the town, but could not have afforded it any serious protection.

The river was originally called the Granta, or, more

familiarly, *le Ee* and *le Ree*. The earliest form of the town's name was *Grantanbrycge* or *Grentebrige*, which in process of time became *Cantbrigge* and *Caumbrege*. Lastly, in the sixteenth and seventeenth centuries, when it became necessary to find a name for the river, the old name of the town having been forgotten, *Cam* was adopted from *Cam-bridge* the shortened form of *Caumbridge*. Thus the river derived its name from the town, and not the town from the river, as was formerly supposed.

The streets in medieval Cambridge were narrow and tortuous, and their condition, as regards want of repair and want of cleanliness, such as would have driven a modern sanitator distracted. Even in ancient times many references to this subject are to be met with. The houses, for the most part, were of wood. A stone-house is so described, as though it were a rarity. Many of the private dwellings had gardens, in some of which 'a parcel of vines' is referred to, and in the very centre of the town we meet with Piron-Lane, so-called, says a medieval writer, from the pear-trees which grew near it. The wharfs above mentioned were doubtless as busy as the corresponding parts of a seaport town; and I can myself remember the long trains of barges which, even for many years after the railroad was constructed, arrived almost daily from Lynn, and the bustle which they occasioned round the Mill Pool or at the Great Bridge, where they used to unload their cargoes.

Further, in estimating the way in which medieval Cambridge grew up, it should be remembered that Norman architecture is confined to the neighbourhood of the castle, the foundations of which were laid by the Conqueror. The churches of S. Giles and S. Peter both bear traces of Norman influence; but, on the other side of the river, the only Norman work within the King's Ditch is the church of the Holy Sepulchre. The church of S. Benedict, in the heart of the medieval town,

is pre-Norman, and may very likely have been the church of the small town or village which was in existence when the Normans came. On the high ground where the castle was afterwards built there were houses—some of which, as Domesday Book records, were destroyed to make way for the stronghold. As time went on more houses would be built along the street leading to the river; and, in a similar way, the village on the opposite bank would extend itself along the other portion of the road until the two had nothing between them except the Bridge.

To the commercial interests of Cambridge there was added, at an unknown period, and by an unknown agency, the corporation of teachers which we describe as the University. It must not, however, be supposed that someone said: "Let us found a University at Cambridge." No University, so far as we know, was ever founded anywhere. Such an institution started from very small beginnings, and "broadened slowly down, from precedent to precedent," till, in this case, it became one of those stately associations of learned men of which the two English examples are now the sole survivors. Nor, again, must it be supposed that the word *Universitas* or University meant in the Middle Ages what it means now. It meant simply "the whole of" any persons to whom a document was addressed. In early days the word was

"never used absolutely. The phrase is always 'University of Scholars,' 'University of Masters and Scholars,' 'University of Study' or the like. It is a mere accident that the term has gradually come to be restricted to a particular kind of Guild or Corporation, just as the terms 'Convent,' 'Corps,' 'Congregation,' 'College,' have been similarly restricted to certain specific kinds of association[1]."

What, then, was the probable beginning in Cambridge of what we call the University? Some teacher on his travels—perhaps at the time of Stourbridge Fair—may have attracted

[1] Rashdall, *Universities of Europe*, I. 7.

an audience; his lectures may have been popular, and he may have been asked to repeat them in the following year; the great monasteries of the Fenland, and the smaller houses of the same Orders in Cambridge, may have associated themselves with this educational movement; the required element of permanency may have thus been gained; and so, very gradually, the little body may have developed an organisation of the required type, with a Rector and a body of Masters; after which the distinction of being called a *Studium Generale* —the medieval equivalent for a modern University—would in a very short time be conferred upon the new body.

There is no doubt that the University, whatever may have been its origin, grew and flourished in Cambridge; for when we first become aware of its existence—in the reign of Henry III.—it comes before us as a powerful, self-asserting corporation, pluckily defending itself against aggression, and, it must be admitted, assuming an air of superiority not wholly justified either by its length of days or by its intellectual achievements.

It must be admitted with regret that from the first appearance of a corporation of scholars in this place there dates also a long series of bitter feuds with the Town; the scholars claiming for themselves complete immunity from authority and taxation, and, further, insisting upon their rights to carry the war into the camp of the common enemy, by testing their weights and measures, by prescribing what amusements should be allowed and what forbidden, and by trying to enforce morality by action in the court of the Vice-Chancellor. This state of things has now, we may hope, been definitely put an end to by Act of Parliament, the University surrendering the points of jurisdiction which seemed to cause special annoyance.

The buildings required for such a corporation as this must have been at the outset were simple enough; they

consisted of a place of meeting; a library; and schools for teaching, or, to use a modern phrase, a number of lecture-rooms. These wants were supplied at first by certain detached houses standing close together in School Street—now represented by the flagged pathway leading from Senate House Hill to the University Library, and past it to the Gate of Honour of Gonville and Caius College—bearing names which indicate their original destination very clearly—as, for instance, Gramerscole, Artscole, Law School, Theology School, etc. Each of these was probably the lecture-room of a single teacher. Subsequently, in 1278, a plot of ground was given to the University, on which, in after years, a School of Theology was built, with what we should call a Senate House above it. Other pieces of ground were added gradually, with other buildings, and by the end of the fifteenth century a quadrangular structure was finished, which—after undergoing many fundamental changes—is now almost entirely appropriated to the University Library. It should be remembered, however, that until the Museums and Lecture Rooms on the site of the old Botanic Garden were begun some forty years ago, these were almost the only buildings in which University, as opposed to Collegiate, instruction was carried on.

In the thirteenth century both those who taught and those who learnt lived where they pleased, the former maintaining themselves by the fees paid to them by their pupils. In process of time this system was found to be inconvenient, in the first place as regarded the teachers; and it was to supply them with board and lodging that the collegiate system was started. The undergraduate of those days, like a German student at the present time, lodged where he pleased, and kept such company as suited his age and his tastes, without let or hindrance from Proctors or other University authorities. The one thing the University really cared about

was to keep their students out of the hands of the town authorities.

The Senate took effectual steps, in conjunction with the burghers, to prevent extortion in the matter of the rent charged for lodgings, but with that exception young men in medieval Cambridge were left to manage their own affairs. It was not till after they had themselves inaugurated a system of Hostels or lodging-houses, in which a number lived together with a Master to look after their studies, their food, and their morals, that the Colleges made arrangements for receiving within their precincts young men who had not proceeded to any degree.

It will be readily understood that the buildings required for these early Colleges were extremely simple. The Founder generally selected a site on which a house large enough to contain his beneficiaries was already standing; and if there was a parish church in the immediate neighbourhood, so much the better, for then less time would be lost in going to and from the daily services. The chapel, the library, the Master's lodge, and the stately gateways, which form so distinctive a feature in the later Colleges, were wholly absent from the earlier. In fact, as Professor Willis has pointed out, "until the collegiate system had stood the test of a long trial, it was impossible to determine which arrangement of buildings would be best adapted for its practical working, while the continual growth and improvement of the system in each successive foundation demanded enlargements and changes[1]." I need not say more upon this matter in this place, for in my account of each College I have been careful to point out the successive dates of the different portions, so that a visitor can trace the gradual development for himself.

There can be little doubt that, when the collegiate system

[1] *Architectural History*, III. 248.

had become an assured success, the plan of collegiate buildings was modelled on that of the manor-houses which had gradually superseded the castles as residences for the nobility. If the plan of Queens' College be compared with that of Haddon Hall, or any other fifteenth century mansion, the truth of this theory will be at once recognised.

It would be interesting, were space and materials at my disposal, to trace the course of education at Cambridge, as divided between the University and the Colleges. At first, as I have already shewn, the Colleges provided shelter for teachers engaged in University work. The University, in its corporate capacity, provided lecture-rooms, and conducted the examinations, then entirely oral, which preceded the degree. A degree, it must be remembered, was merely a license to teach; and only those proceeded to it who proposed to follow that profession. In the sixteenth century, when Professorships began to be founded, as for instance by the Lady Margaret and by Henry the Eighth, it was as University officers that the Professors delivered their lectures. After the Reformation, however, when most of the Colleges had received undergraduates within their walls, they began to resent interference with what they regarded as their own special province. They could not do away with University examinations, but they could, and did, control the education which prepared students for them. College lectures were developed; and the system of private tuition was introduced. The lecture-rooms of the Professors were deserted, unless they dealt with a subject too technical to be taught elsewhere, as for instance Divinity, and the courses required for degrees in Medicine or in Law; or unless they were men of special popularity, who were listened to whether their lectures were useful or not as preparation for a degree.

Our own day has witnessed a remarkable change. On the scientific side education has reverted to the University, and

within the last forty years a splendid series of Museums and Lecture Rooms has been built, while others are still in building. These are thronged with students, whose studies are directed by the Professors, the Readers, the Lecturers, and the Demonstrators required by each science. In many departments the teaching, supplemented as it is by the most modern appliances and instruments, is probably more thorough than any that can be met with either in England or in Europe; while the original research that is being constantly carried forward is fruitful in results of great scientific value.

The University, speaking generally, has no corporate funds, and the annual income derived from the fees of students is entirely inadequate to meet such an outlay as modern scientific education demands. Parliament has therefore sanctioned an increase in the income of the University by taxation of the Colleges. After all charges have been met the net divisible income pays a certain percentage to the University, the disposal of which is regulated by the Senate. Thus the Colleges at the present day are in even closer relation to the general teaching of the University than when they merely supplied board and lodging to those who gave instruction.

JOHN WILLIS CLARK.

August, 1910.

RECENT ADDITIONS.

FIRST WALK.

UNIVERSITY LIBRARY. Portrait of the Librarian by J. S. Sargent, R.A., see p. 9.

TRINITY COLLEGE. The portraits in the Hall have been rearranged and added to, and the central position is now given to the portrait of the founder, King Henry VIII, by Hans Eworth, after a cartoon by Holbein.

No. 3, SUSSUM'S YARD. The inlaid pictorial panels have now been removed by the Authorities of S. John's College for restoration, and will be placed in a suitable position in the College, see p. 65.

MAGDALENE COLLEGE. A portrait of Thomas Hardy, by Mr Fuller Maitland, has been hung in the gallery to the Hall, and a portrait of Dr A. C. Benson, by the same artist, has been added to the Combination Room. Note the house, with lecture room, at the Chesterton Road and Magdalene Street corner, built in 1912 by Dr Benson, before he was made Master.

SOLAR PHYSICS OBSERVATORY, see p. 75.

SECOND WALK.

FREE LIBRARY. Reference Library and Veysy fireplace, see p. 79.

SIDNEY SUSSEX COLLEGE. The Chapel is in course of enlargement and alteration. It has been more than doubled in size and the walls are being panelled in oak. The design of the new work is Classic rather than Gothic. A very effective feature is the Chapel on the West side "in memory of Bishop Hicks," separated from the main building by an arcade surmounted by an upper storey of the same type. The marble pavement is the most elaborate in Cambridge. The picture over the altar is by Pittoni (*c.* 1687–1767).

EMMANUEL COLLEGE. The striking new North Court (Emmanuel Street) is the largest architectural work carried out at one time by any of the Colleges since 1870, and is from the designs of Mr Leonard Stokes. A depressed arch at the

S.W. corner leads into the Cloister, with open, low pitched arches, and plaster vaulting. The main block consists of a four storied building, containing 60 sets of undergraduates' rooms and two sets for fellows. The paved court has a large oval sunk grass plot. The new buildings are connected with the older part of the College by a subway under Emmanuel Street.

THIRD WALK.

FITZWILLIAM MUSEUM—Marlay Extension. By the death of Charles Brinsley Marlay, of Trinity College, in 1912, the Museum has recently benefited by a bequest only second in importance to that of its founder. The bequest comprises collections of pictures, pottery, porcelain, silverwork, bronzes and miscellaneous objects of great value, together with the sum of £80,000 for their housing and upkeep, and the lease of a house which was sold for an additional £10,000. The First Report of the Fitzwilliam Museum Extension Syndicate, showing how it is proposed to erect the Marlay Extension in the garden of Grove Lodge which was purchased for the purpose in 1914, was presented to the Senate on May 11, 1915. The plans of the architects, Messrs Smith and Brewer, provide for a narrow gallery with two floors, connecting the existing building with one side of what (if similar benefactions are forthcoming) will ultimately be a quadrangle with top-lit picture-galleries on the upper floor and with side-lit ground-floor galleries, one of which is to receive the Glaisher collection of pottery and faience. Towards the cost of building this gallery the sum of £1000 will be contributed by Dr Glaisher. The recommendations of the Syndicate were approved by the Senate on June 11; a question as to the material to be employed for the exterior walls being reserved for future discussion. The working drawings are now in preparation, but owing to the war, and the abnormal condition of the building trades which is expected to follow, it is impossible to say how soon they can be carried out.

ADDENBROOKE'S HOSPITAL. In 1910 an Electrical and X-ray Department was opened, and in 1913 a Clinical Laboratory

was erected at a cost of £3,000 in memory of the late Mr John Bonnett, M.A., for many years Secretary and legal adviser to the hospital. The new children's ward occupying the top storey on the visitor's left, was completed in 1915, and brought the number of beds up to 192. The new Out-Patients' Department was opened in the same year and provides a large waiting-hall, medical, surgical and special departments, a casualty room and eye-operating theatre.

PEMBROKE COLLEGE. Bridge in front of Master's Lodge, see p. 118.

LEYS SCHOOL. Gateway and Library, see p. 3.

QUEENS' COLLEGE. Dokett Building, see p. 130.

CHESHUNT COLLEGE is at present approached from Bateman Street, but will eventually have its main entrance in Brookside. The buildings, designed by Mr P. Morley Horder, consist of a northern and eastern range joined together and forming two sides of a quadrangle. The Tutor's house is at the south-east corner, and it is intended to build the President's house at the north-west corner. The buildings are late Tudor, with good bay mullioned windows, and were opened in 1915.

The College, though still attached to the Countess of Huntingdon's Connexion, also trains for the ministry of other bodies. The head of George Whitefield, at one time chaplain to the Countess of Huntingdon, is shown in relief over the north doorway, and the arms of the foundress appear on the tower doorway, facing the quadrangle.

CORPUS CHRISTI COLLEGE. A new wing was added to the back of the Old Court in 1915, consisting of baths on the ground floor and five sets of rooms above. The architect was Mr T. H. Lyon. The hall of the College has also been beautifully redecorated by him in black and red. The portraits have been rehung, and the archbishops, bishops and other distinguished members of the College make an impressive series.

In the year 1915, through the kindness of Mr J. H. Nelson, statues of Archbishop Parker and Sir Nicholas Bacon were placed on either side of the Chapel door in the main court opposite the Trumpington Street entrance.

FOURTH WALK.

MUSEUMS OF SCIENCE, see pp. *150, 175, 177.*

RESEARCH HOSPITAL. This Hospital was opened for the systematic study of disease, and is situated on the Hills Road, about $1\frac{3}{4}$ miles south of the Station Road corner. The Director is Mr T. S. P. Strangeways, Lecturer in Special Pathology.

CAMBRIDGE.

GENERAL DIRECTIONS TO A STRANGER.

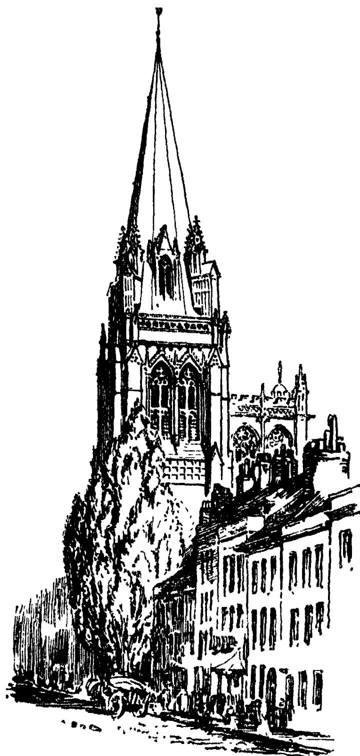
On leaving the Railway Station a visitor may either walk into the centre of the town (a distance of about 1½ miles) or take a taxi or motor-bus.

In either case he passes down Station Road, and then turns to the right into a road which, under the various names of Hills-Road, Regent Street, St Andrew's Street, Sidney Street, Bridge Street, Magdalene Street, and Castle Street, passes through Cambridge from south to north, and represents the Roman road, named in the eighteenth century *Via Devana*.

On entering this road he passes, *left*, the WESLEYAN CHAPEL, a Gothic building, built 1872; *right*, S. PAUL'S CHURCH, built 1842; and on the same side of the street the PERSE GRAMMAR SCHOOL, founded 1615, by Stephen Perse, M.D., Fellow of Gonville and Caius College. It was rebuilt on this site in 1890. The Perse School for girls is at a little distance in Panton Street. Opposite to this School, at the corner of Hills Road and Lensfield Road, is the Roman Catholic Church of OUR LADY AND THE ENGLISH MARTYRS, built at the sole cost of Mrs Lyne-Stephens, 1887—1890; and consecrated 8 October, 1890. It was designed by Messrs Dunn of Newcastle-on-Tyne. It is 165 ft. long, and 83 ft. broad, with a spire 216 ft. high. A rectory-house, of red brick, adjoins the church.

At this point the visitor should turn to the left along Lensfield Road, which joins the Hills Road to the Trumpington Road.

On reaching the Trumpington Road, or Trumpington Street, the visitor finds himself in what was formerly the



SPIRE OF THE CHURCH OF OUR LADY AND THE ENGLISH MARTYRS.

usual entrance to Cambridge, when approached by coach or carriage from London. At the corner of Lensfield Road and

Trumpington Road, is the old stone Conduit, erected on the Market Hill in 1614, and removed to its present position in 1855. Opposite, a little further down, may be seen the buildings of The Leys, a public school on modern lines, established in 1875. The fine gateway and library were opened by H.M. King George V. in 1914. The chapel, with good stained glass and wood carving, was completed in 1906. Further south are the new buildings of Cheshunt College. (See Recent Additions, p. xxvii.)

Proceeding down Trumpington Street the following buildings, to be described subsequently, are passed: *right*, Addenbrooke's Hospital; *left*, Fitzwilliam Museum; *right*, Fitzwilliam Hall, the headquarters of the non-collegiate students; *left*, Peterhouse, the parish church of S. Mary the Less, and the Congregational Meeting-House or Emmanuel Church; *right*, Pembroke College; *left*, between Mill Lane and Silver St., the University Press; *right*, S. Botolph's Church, Corpus Christi College, and S. Benet's Church; *left*, S. Catharine's College, and King's College.

We will suppose the visitor to begin his

FIRST WALK

with a detailed examination of

GREAT S. MARY'S CHURCH,

the largest and most important church in Cambridge. It is a parish church, and is also used by the University for sermons on Sundays, the Litany on Ash-Wednesday, and occasionally at other times.

A church in this position was consecrated 1351; the existing church, an excellent specimen of Perpendicular Gothic, 142 ft. long, by 65 ft. broad, was begun 1478, but proceeded very slowly, notwithstanding the strenuous efforts of the University to obtain subscriptions by sending the Proctors on horseback through England with begging-letters. The nave-roof was not framed till 1506; the tower was begun 1491, and

carried up to top of west window 1530. The belfry-stage was begun 1593, and finished 1608. A west door of the Renaissance existed till 1851, when Sir G. G. Scott replaced it by the present one.



GREAT S. MARY'S CHURCH.

On entering, note nave of five bays, with clerestory, two windows to each bay. The font, dated 1632, is a good specimen of Jacobean Gothic. The oak benches, with poppy-heads, may be referred to same period. The galleries, designed by James Gibbs, were added 1735, with funds bequeathed by W. Worts, M.A., of Catharine Hall. Between 1738 and 1760 the University built a huge structure in the chancel called the Throne, but commonly known as *Golgotha,* for the Vice-Chancellor, Doctors, Professors, and University Officers to sit in. As part of the same work, a huge pulpit stood in the centre of the nave, which was seated with benches standing east and west. This part was nick-named *The Pit.* The appearance of the whole was so unusual and indecorous that Archdeacon Hare called it

'an example of the world turned topsy-turvy.' In 1863 the Rev. H. R. Luard, M.A., Vicar, effected the present excellent arrangement, at a cost of nearly £7,000, mostly raised by subscription. The following special gifts deserve commemoration. The altar was given by the English Church Union, and the reredos by Rev. J. B. Lightfoot, D.D. (1865). The latter work represents the Crucifixion, between S. Paul at Athens (*right*), Samuel and the Schools of the Prophets (*left*). The piscina and sedilia in the south wall, probably part of the original church, were restored by subscription in 1866. In the same year the altar-rails, steps, sacrarium pavement, and gas-standards, were given by A. A. VanSittart, M.A., Trinity. The lectern was given by Mr W. H. Hattersley (1867), and the altar-chairs by Mr A. H. Moyes (1868). The east window was given by the Rev. H. R. Luard, Vicar, 1869; and the window on the north side, representing the Resurrection, by the same in memory of Mrs Luard, 1890.

The subjects in the East Window are: I. *Above the transom*, The Virgin and Child between the Adoration of the Kings (*left*) and the Adoration of the Magi (*right*): II. *Below the transom, from left to right*: The Annunciation; The Visitation; The Angels appearing to the Shepherds; The Presentation; The Flight into Egypt.

The window on the south side commemorates Rev. Ch. Hardwick, M.A., Archdeacon of Ely, died 18 August, 1859. The niches in the east wall were restored by Trinity College, to whom the chancel belongs, in 1867; the sculptures, representing the Brazen Serpent (north), and Abraham and Isaac (south), commemorate Rev. W. H. Mill, D.D., Regius Professor of Hebrew, died 25 Dec. 1853. The monument of Wm. Butler, M.A., fellow of Clare Hall, a celebrated physician (d. 29 Jan. 1618) who attended Prince Henry in his last illness, has been restored and placed on the north wall of the chancel. Note the inscription: *Medicorum omnium quos præsens ætas vidit facile princeps.* The screens at the east end of the aisles were made out of the eighteenth century pulpit. The south porch, destroyed in 1783, was rebuilt in 1888 by Mr W. H. Hattersley, after the view of the original by Loggan, 1688.

The aisle-windows, beginning with the N.-W. window, contain the coats of arms of the subscribers to the rebuilding of the nave, 1478–1519, given by S. Sandars, M.A., Trinity,

1892. The windows in the clerestory are being filled, by various donors, with stained glass to illustrate the three verses of the Te Deum : *The glorious company of the apostles; The goodly fellowship of the prophets; The noble army of martyrs.* The series begins at the N.-W. corner with the Prophets.

One of the bells is rung according to ancient custom every evening from 9 p.m. to 9.15 p.m., when the ringing ends with the number of the day of the month. The chimes were composed about 1790 by Dr Jowett, Tutor of Trinity Hall. A smaller bell rings from 5.45 a.m. to 6 a.m.

Opposite Great S. Mary's Church is the open space called Senate House Hill; and on the west side of this, separated from the street by massive iron railings, put up when the Senate House was completed in 1730, is Senate House Yard. In the centre of the lawn is a copy of the Warwick Vase, presented in 1842 by the Duke of Northumberland, then Chancellor of the University.

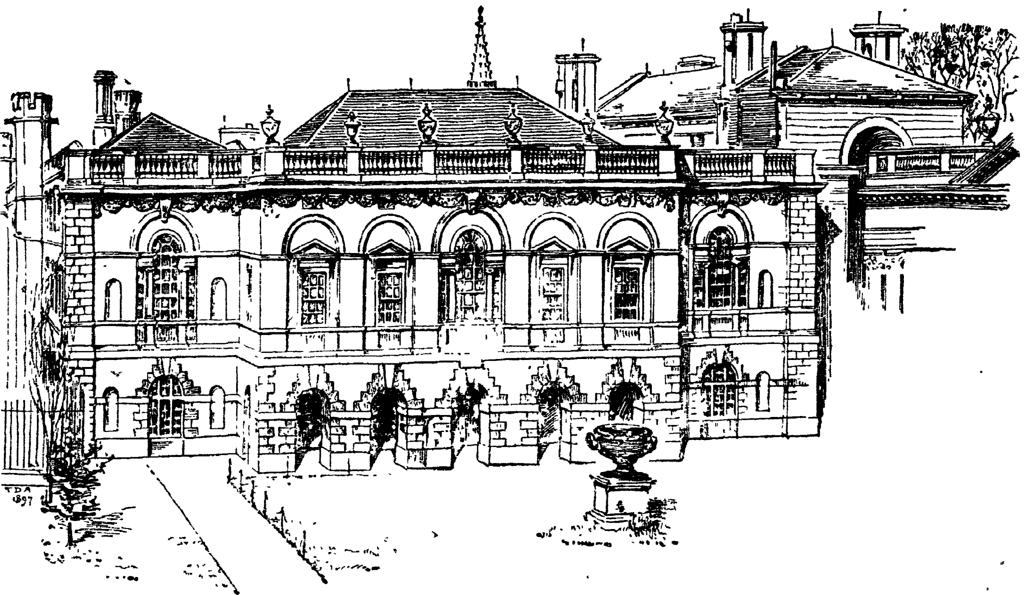
Enter Senate House Yard by the gate at the S.-E. corner, and pass along the broad flagged walk to the

University Library.

The entrance is opposite the west end of the Senate House, through a lofty door inscribed BIBLIOTHECA. This was completed at the beginning of the October Term, 1905. A visitor will be taken round by one of the Assistants : but there is little to interest those who are not students.

The Library consists of three portions : (1) the east quadrangle ; (2) the west quadrangle ; (3) Cockerell's Building.

Ascend the staircase from the new vestibule, and enter the catalogue-room. This was the Senate House of the University (called Regent House or New Chapel) until 1730. Note the beautiful plaster ceiling of the 17th century. Turn left and enter the east room, built, with the façade, 1754—61, after the design of Mr Stephen Wright, an architect recommended to the University by the Duke of Newcastle, Chancellor (1748—68). Note the effective plasterwork of the ceiling, and the busts of Rev. Cha. Simeon, M.A., d. 1836, and Rev. Fre. Denison Maurice,



THE UNIVERSITY LIBRARY. EAST FRONT.

M.A., d. 1872. Leave this room by the south door, and note among the portraits on the staircase Queen Elizabeth, given by Vincent Skinner, 1589; Charles I. when a boy, 1613; William Cecil, Lord Burghley, d. 1598; Robert Cecil, d. 1612; Robert Dudley, Earl of Leicester, d. 1588; Prof. Porson, d. 1808; Hen. Martyn, M.A., d. 1812.

From the top of the stairs enter the south room, originally "the common library." The roof is original (1457—70). The bookcases, the oldest in the Library, were made in 1649. The three next rooms, called the Dome Room, the West Room, and the Catalogue Room which you entered first, were fitted up as part of the Library between 1719 and 1734, to contain the books collected by John Moore, D.D., Bishop of Ely, and given to the University by George I. in 1715.

This quadrangle (1) is still called the Schools Quadrangle, because it originally contained the schools, or as we should now say, lecture-rooms, required for University teaching, in addition to the Senate House and Library. The latter has now absorbed all the rooms on both floors.

Behind this quadrangle is the west quadrangle (2) which is practically modern. The south side was built by Sir G. G. Scott in 1864, on the site, and in part on the foundations, of the Old Court of King's College, bought by the University in 1829 (see p. 21); and the west side, by J. L. Pearson, R.A., architect, in 1889, out of a bequest of £10,000 made to the University by the Rev. E. G. Hancock. The gateway is that of the Old Court (see p. 21). Most of the rooms can only be visited by special leave. They contain MSS. and early printed books, reserved books, private rooms for the Librarian, staff, and students, and, on the ground floor, Lord Acton's library, given to the University by John Morley, M.P., in 1902.

The north side of the west quadrangle is formed by (3) a building begun in 1837 from a design by Cha. Rob. Cockerell, architect, as part of a grand quadrangular structure which would have occupied the whole site, and necessitated the destruction of all the older buildings; but want of funds prevented its completion. The first-floor is entered from the staircase to the Catalogue Room. At the west end are statues of George I. by Rysbrack, and of George II. by Wilton. These were originally placed in the Senate House in 1739 and

1766 respectively, and removed to their present position in 1884. On the north side is the bust of Henry Bradshaw, M.A., Librarian 1867—1886, and a fine portrait of the present librarian (Mr F. J. H. Jenkinson, M.A.) by John S. Sargent, R.A., was added in 1915. The stained glass in the east and west windows is by Thomas Willement, d. 1870.

The EAST WINDOW contains the following arms:

The University. Abp. Rotherham († 1483). Bp. Tunstall (1474—1559). John Jeffreys Pratt, Marquis Camden, K.G., chancellor of the University (1834—1840). Gilbert Ainslie, D.D., master of Pembroke College (1820—70), vice-chancellor, 1836—7. Thomas Worsley, M.A., master of Downing College (1836—1885), vice-chancellor, 1837—8. William Hodgson, D.D., master of Peterhouse (1838—1847), vice-chancellor, 1838—9. Ralph Tatham, D.D., master of St John's College (1839—1857), vice-chancellor, 1839—40.

The WEST WINDOW contains the arms of Hugh Percy, third duke of Northumberland, K.G. (1784—1847), successively High Steward (1830—40), and Chancellor of the University (1840—47).

In this room are the show-cases for manuscripts and other objects.

Before leaving the Library turn to the left out of the entrance hall and inspect the ground floor of Cockerell's Building, formerly the Woodwardian Museum of Geology. This is now called The Goldsmiths' Room, because the University was enabled to fit it up by the liberality of the Worshipful Company of Goldsmiths, who gave £5000 to the Library Benefaction fund in the year 1906.

By an ingenious application of the modern system of iron book-stacks the vertical space has been divided into four floors so as to be capable of holding about 400,000 volumes.

The western portion has been fitted up for Maps and Music. The former occupy the western part of the room, which is admirably lighted by the large window opposite Clare College, and arranged for purposes of study.

You will next visit

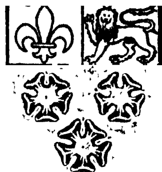
THE SENATE HOUSE,

built 1722—1730, from a design by James Gibbs. It contains statues of Charles Duke of Somerset, Chancellor of the University 1689—1748, by Rysbrack; and of William Pitt, by Nollekens, completed 1812. The woodwork, of the period of the first construction, is particularly fine.

Next walk along Trumpington Street, here called King's Parade, to the gate of

King's College,

founded by King Henry VI., on first site, 1440. Second site bought 1443—49. First stone of Chapel laid, 1446; fabric finished, 1515; Fellows' Building, 1724; Hall, Library, Provost's Lodge, Screen, 1824; Scott Building, 1870; Bodley Building, 1893; Webb Building, 1908.

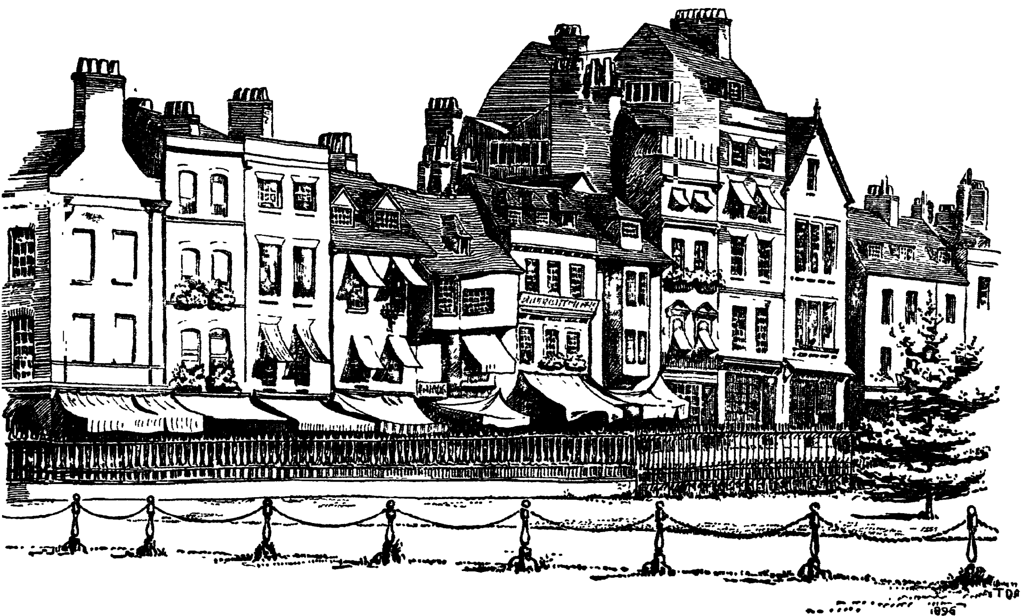

ARMS OF KING'S COLLEGE.

The façade of King's College to Trumpington Street is formed by the east gable of the Chapel, the screen and gate designed by Wilkins, the east gable of the range designed by the same on the south side of the court, and Sir G G. Scott's range.

The Chapel—289 ft. long, 40 ft. wide, and 80 ft. high, from the floor to the central point of the stone vault—was designed by Henry the Sixth as the north side of a closed quadrangle, with buildings abutting against both its ends. The white stone (magnesian limestone, from Hudleston, in Yorkshire) marks the part built by the Founder, for the supply ceased at his death. Note the heraldic animals on the four westernmost buttresses on the south side, and the five westernmost on the north side. These mark the portions built out of the funds provided by Henry the Seventh, whose executors finished the stonework of the Chapel.

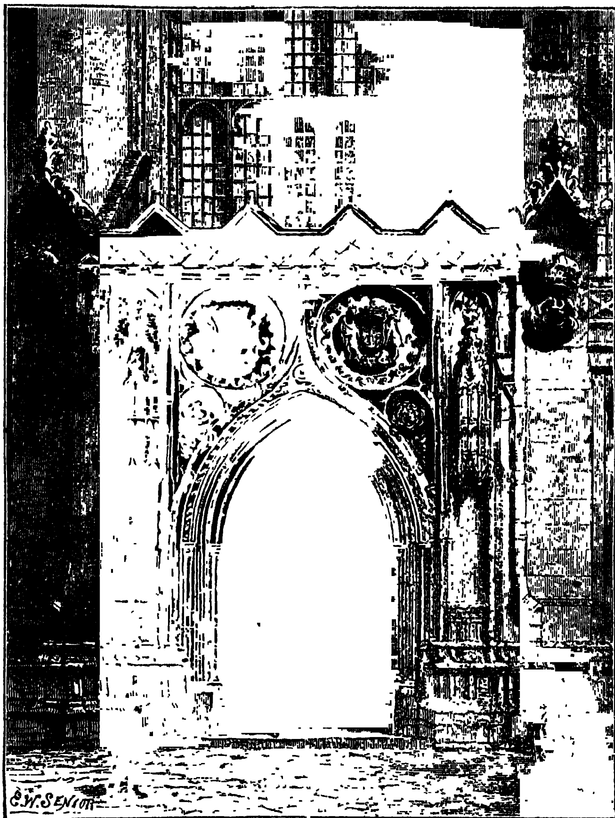
On entering the antechapel note that the coats-of-arms, the roses, portcullises, and other heraldic devices which so profusely decorate the walls, all commemorate Henry the Seventh; and, as on the exterior, mark the portions added out of his money. Note also the ingenious devices employed to make the fan-vault, begun 1512, fit piers built for a different design.

The organ-screen, a splendid specimen of Italian work, was set up while Anne Boleyn was queen, 1532–36. Note the A. R. (*Anna Regina*) and H. A. (*Henricus, Anna*) on different parts of it, and the Boleyn arms impaled with those of England on the west side, close to the south wall. The doors are dated 1636. The organ-case, so far as the general design is concerned, may be referred to René Harris, and dated 1688; but he very probably used portions of the case of the older organs, the first of which was set up by



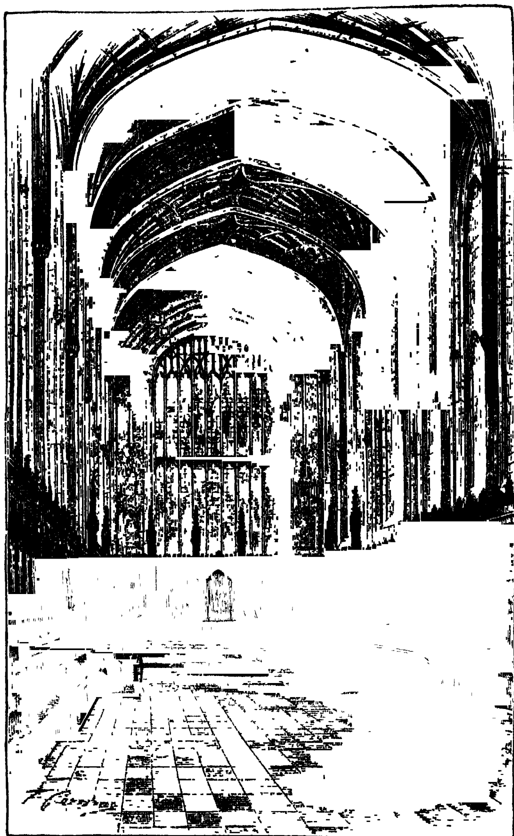
KING'S PARADE.

Dallam in 1606 and it is possible that parts of an even earlier instrument may have been worked in. The organ was much enlarged by Messrs Hill in 1859.



KING'S COLLEGE CHAPEL. SOUTH PORCH.

The lower part of the stalls is of the same period as the organ-screen: but the coats-of-arms in elm wood were



KING'S COLLEGE CHAPEL, INTERIOR, LOOKING EAST
(as it appeared before 1897.)

given by Thomas Weaver, 1633; and the canopies (except those against the screen) were added by subscription, 1675–78. The panel-work east of the stalls was constructed 1678–79. That shewn behind the altar in our view of the interior was constructed 1774, with the stone niches on each side of the east window. Both were removed 1897, soon after which the woodwork now in progress was begun. The design was thrown open to competition; the one selected being by Messrs Blow and Billerey. The composition follows generally the lines of the organ-screen. A painting by Daniele da Volterra representing the Deposition originally given in 1790 by Frederick Earl of Carlisle, and hung over the altar, is now set on the new panelling on the north side. Above the altar will be three statues representing Our Lord, Our Lady, and S. Nicholas. The lectern was given by Provost Hacomblen (1509–1528).

The stained glass in the east window and in the windows on the north and south sides was executed between 1515 and 1531, by Barnard Flower, the "King's Glazier," and four Englishmen and two Flemings, all resident in London. These windows contain the finest series in the world of pictures in glass on a large scale. The glass has never been taken out, except for repair, nor has it ever been wilfully damaged. The stories of what happened to it during the Civil War are all false.

The tracery is filled with heraldic devices, commemorating, as a rule, Henry the Seventh. In each side-window there are four pictures, each occupying the two side-lights above and below the transom: while the central light contains in each of the same subdivisions two figures, called Messengers, because they bear scrolls or tablets or some other device for the exhibition of a legend descriptive of the pictures at the sides.

The main subject of the windows, taken as a whole, is the Life of the Virgin, and the Life of Christ, illustrated by types from the Old Testament and elsewhere. The series begins with the Birth of the Virgin in the westernmost window on the north side, and proceeds through the principal events of our Lord's Life to the Crucifixion in the east window. This is followed, on the south side, by the subsequent events recorded in the Gospels, of which the last depicted is the Ascension in the sixth window, counting

from the west. Next to this comes the history of the Apostles, as recorded in the Acts, occupying the fifth, fourth, and third windows; and lastly, the legendary history of the Virgin is resumed in the second and first windows. The pictures in the upper tier are not in regular sequence, but are selected out of the Old Testament, the Apocrypha, or legendary history, because they correspond with the former in the relation of type and antitype. There are some exceptions to this arrangement, as in the first two windows on the north side, and in those illustrating the Acts; but the general arrangement is as above stated.

I will first enumerate, very briefly, the heraldic devices in the tracery lights at the top of the side windows.

In the central light at the top, the arms of Henry VII., encircled with the garter.

In the other small lights the following badges, on shields held by angels:

1. The Lancaster Rose (red).
2. The Hawthorn Bush.
3. The Portcullis.
4. The Fleur-de-lys.
5. The Tudor Rose (red and white).
6. The White Rose in a Sun (for York).
7. Initials, H. E. (for Henry VII. and Elizabeth of York).
8. ———, H. R. = Henricus Rex.
9. ———, H. K. (for Henry VIII. and Katherine of Aragon).

The subjects of the windows are as follows:

NORTH SIDE.

WINDOW I. (*westernmost*)

The High Priest rejects the offering of Joachim and Anna, legendary parents of the Virgin.	An Angel bids Joachim return to Jerusalem, where he should meet his wife at the Golden Gate of the Temple.
Joachim and Anna at the Golden Gate of the Temple.	Birth of the Virgin.

WINDOW II.

Presentation of a golden table (found by fishermen in the sand) in the Temple of the Sun.	Marriage of Tobias and Sara.
Presentation of the Virgin in the Temple.	Marriage of Joseph and Mary.

*** In this Window there is a small compartment at the bottom of each light containing a half figure of a man or angel bearing a legend.

WINDOW III.

Eve tempted by the Serpent.	Moses and the Burning Bush.
The Annunciation.	The Nativity.

WINDOW IV.

The Circumcision of Isaac.	The Queen of Sheba visits Solomon.
The Circumcision of Christ.	The Adoration of the Magi.

WINDOW V.

The Purification of Women under the Law.	Jacob's Flight from Esau.
The Purification of the Virgin.	The Flight into Egypt.

WINDOW VI.

The Golden Calf.	The Massacre of the Seed royal by Athaliah.
The Idols of Egypt falling down before the Infant Jesus.	The Massacre of the Innocents.

WINDOW VII.

Naaman washing in Jordan.	Esau tempted to sell his Birthright.
The Baptism of Christ.	The Temptation of Christ.

WINDOW VIII.

Elisha raises the Shunammite's son.	David with the Head of Goliath.
The Raising of Lazarus.	Entry of Christ into Jerusalem.

WINDOW IX.

The Manna in the Wilderness.	The Fall of the Rebel Angels.
The Last Supper.	The Agony in the Garden.

WINDOW X.

Cain killing Abel.	Shimei cursing David.
The Betrayal of Christ.	Christ blindfolded and mocked.

WINDOW XI.

Jeremiah imprisoned.	Noah mocked by Ham.
Christ before the High Priest.	Christ mocked before Herod.

WINDOW XII.

Job vexed by Satan.	Solomon crowned.
The Flagellation of Christ.	Christ crowned with thorns.

EAST END.

Christ nailed to the Cross.	**The Crucifixion.**	**The Deposition.**
Ecce Homo.	**Pilate washing his hands.**	**Christ bearing the Cross.**

SOUTH SIDE.

WINDOW XII. (*easternmost*).

Moses and the Brazen Serpent after a picture by Rubens now in the National Gallery.

*** The upper portion of this window formerly contained what is now below. The old glass was moved into the lower lights in 1841; in 1845 the upper half was filled with new glass, forming a single picture intended to serve as a type to the Crucifixion in the East Window.

Naomi and her Daughters-in-law. — Christ bewailed by the Virgin and other holy women.

WINDOW XI.

The Casting of Joseph into the Pit. — The Exodus.

The Burial of Christ. — The Release of the Spirits from Prison.

WINDOW X.

Jonah cast up by the Whale. — Tobias returning to his Mother.

The Resurrection of Christ. — Christ appearing to the Virgin.

WINDOW IX.

Reuben, seeking Joseph, finds the Pit empty. — Darius finds Daniel alive in the Lion's Den.

The three Maries at the empty Sepulchre. — Christ recognised by Mary Magdalene.

WINDOW VIII.

The Angel Raphael appearing to Tobias. — Habakkuk feeding Daniel.

Christ appearing to Two Disciples on the way to Emmaus. — The Supper at Emmaus.

WINDOW VII.

The Return of the Prodigal Son. — Joseph welcoming Jacob.

The Incredulity of S. Thomas. — Christ blessing the Apostles.

WINDOW VI.

Elijah carried up to Heaven. — Moses receives the Tables of the Law.

The Ascension of Christ. — The Descent of the Holy Spirit.

WINDOW V.

S. Peter and S. John heal the Lame Man at the Beautiful Gate of the Temple.	The Arrest of S. Peter and S. John.
S. Peter preaching on the Day of Pentecost.	Ananias struck dead.

WINDOW IV.

The Conversion of S. Paul.	S. Paul disputing with Jews at Damascus.
S. Paul and S. Barnabas worshipped at Lystra.	S. Paul stoned at Lystra.

WINDOW III.

S. Paul casting out a spirit of divination.	S. Paul before Lysias the chief captain.
S. Paul's farewell at Miletus (?).	S. Paul before Nero.

WINDOW II.

The Death of Tobit.	The Burial of Jacob.
The Death of the Virgin.	The Burial of the Virgin.

WINDOW I. (*westernmost*).

The Translation of Enoch.	Solomon receiving his mother Bathsheba.
The Assumption of the Virgin.	The Coronation of the Virgin.

The west window, representing the Last Judgment, was given in 1879 by Fra. Edm. Stacey, M.A., formerly Fellow. It was executed by Messrs Clayton and Bell.

The easternmost side-chapel on the south side (*right* as you face the Organ-Screen) is the chantry of Dr Rob. Brassie (Provost 1556–58). Note the oak door, the panelwork, and the traces of an altar.

The glass in the screen contains only his initials, R. B.: in the window next the court are eight interesting figures, brought from elsewhere. They are part of a series older by many years than any other glass in the Chapel, being early fifteenth century. They represent, from left to right:

1. S. Peter.	2. S. Philip.
3. A Bishop.	4. Zephaniah, or Daniel.
5. King David.	6. A Doctor.
7. S. Erasmus (?).	8. S. James the Great.

The next Chapel westwards is the chantry of Robert Hacomblen (Provost 1509–28).

Note on the glass of the screen his initials R. H.; and also the initials R. h. which may stand for *Rex henricus*. In the tracery-lights are the following figures, from left to right as you stand inside the Chapel:

1. S. Christopher.	2. S. Ursula.
3. The Angel Gabriel.	4. The Blessed Virgin.
5. S. Anne.	6. S. John Baptist.

In the upper lights of the window next the court are various badges and angels, and (*right*) the four Evangelistic Beasts, (*left*) the four Latin Doctors. In the lower lights are two half-length figures. That on the left is King Henry the Sixth; that on the right S. John the Evangelist.

Note further in this chantry the brass with effigy of Provost Hacomblen; and the tomb of John Churchill, Marquess of Blandford, only son of the great Duke of Marlborough, who died a student of this College 28 February, 1703, æt. 16.

It is worth while to ascend to the roof for the sake of the view. On the way up note the construction of the great stone vault and of the wooden roof above it.

A small charge is made for each person.

Leaving the chapel by the south-west door, follow the gravel walk to the opposite side of the court. On the right, opposite to the gate of entrance, is the Fellows' Building. The death of King Henry VI. stopped his scheme for the erection of a college, and the Fellows and Scholars were housed in the small quadrangle behind the University Schools, called "Old Court," until 1723, when this range of chambers was built by James Gibbs. Here the Rev. Cha. Simeon (d. 1836) resided, first in the southern rooms on the ground-floor of the southern staircase (that furthest from the Chapel); and secondly in the set above the central archway with a large semicircular window looking towards the Town. The iron handrail may still be seen which in his old age was placed on the staircase to assist him in the long ascent. It is still called *The Saint's Rest.*

The fountain in the centre of the lawn, surmounted by a statue of King Henry the Sixth, designed by H. H. Armstead, R.A., was completed in 1879.

At the end of Fellows' Building turn to the left and visit the Hall. This building, with the rest of the range on the south side of the College, the Screen, and the gate of entrance, was built by Wilkins (1824–28). His design was selected against those of eighteen competitors, but he was subsequently compelled by the College to accept the suggestions of three other architects, Messrs Jeffery, Nash, and

Wyatt. The general design of the Hall was derived from Crosby Hall, London; but the College insisted upon two lanthorns instead of one, as usual in medieval halls. Among the portraits note the following:

Left: Henry Bradshaw, d. 1886
Rev. Rich. Okes, Provost, d. 1889 } by Hubert Herkomer.
Viscount Stratford de Redcliffe, d. 1830
Rev. Cha. Simeon, d. 1836.
Rev. A. Austen Leigh, Provost, d. 1905. By Hon. J. Collier.

On leaving the Hall return to the Great Court, and passing along a passage under the Library, visit the latest additions to the College buildings, a range designed by Sir Aston Webb, R.A. and first occupied in 1908. It is entered externally from Queens' Lane through a picturesque gatehouse and with the existing buildings forms a small court containing 22 sets of rooms, provided with all the modern conveniences. Retrace your steps, and on entering the Great Court turn left to the Bridge, passing, *left*, the Library, the Provost's Lodge, and the buildings erected by G. F. Bodley, architect (1894). These, when completed, will form a court with three sides, open to the river on the west.

The view from the Bridge (removed to its present position in 1828 from a point opposite to the centre of the Gibbs Building) is specially beautiful. On the south (*left* as you approach the Bridge) are the buildings, bridge, and grove of Queens' College, with the town-bridge formerly called Small Bridges and the Mill beyond. On the opposite side is Clare College with its bridge, and beyond, Garret Hostel Bridge and Trinity College Bridge. In the centre of the meadow beyond the river may still be seen the remains of the avenue, which was planted on a raised causeway, and connected the Bridge in its old position with the road on the west of the College grounds.

From the Bridge turn right along the gravel walk by the river and under the garden-wall and buildings of Clare College. Fine views are obtained of the Fellows' Building and the west end of the Chapel. Here the Founder intended a cloister-cemetery, with a belfry-tower 120 feet high on the side next the river. The ground was consecrated, and burials took place in it.

Leaving King's College by the iron gate on the north side of the Chapel, on the right is the exterior of the west court of the University Library (see above, p. 6). Note the Gothic gateway through which it is entered—a good specimen of the gateway-towers characteristic of Cambridge collegiate architecture, and the second in order of date, the first being that of King's Hall (1427), now altered into King Edward the Third's gate in Trinity College. This gateway originally gave entrance to King's College in its first position, when the Founder intended to confine it to a small quadrangle behind the University Schools afterwards called "Old Court." The foundation-stone of the gateway was laid by Henry VI. in person, 2 April, 1441, and the south range, with the return along the west side as far as the gateway, was completely finished, but the gateway itself was carried up only to the level of the second floor. The great beauty of the finished portion makes the loss of the upper part greatly to be regretted. The walls of the remainder of the west range, and of the kitchen, were carried up only as high as was the gateway. The work was then suspended, and these unfinished portions were subsequently roofed over in a less substantial style. In this College the chambers were in three floors, instead of in two floors as in other Colleges. On the ground floor they were lighted by small windows, each of two lights, two of which, one on each side of the gateway, still remain. Our illustration (taken in 1815) shews the exterior of the old Hall and Kitchen, from the north (p. 22).

The gateway was evidently the work of a first-rate architect. Note the beauty of the west front, with the ornamentation of the spandrils, the panels below the windows, and the row of angels ornamenting the straight line above the arch. The wooden doors are probably original. Enter the court, and note the east front, much plainer than the other, and the larger turrets, containing staircases. The turrets next to the street were merely buttress-turrets. The gateway was spared in 1835, when the rest of the buildings of Old Court were destroyed to make way for Cockerell's Library-quadrangle: and it was completed by Pearson (1889), with the ranges north and south of it, as part of the Hancock Building (p. 8). The south range, having been destroyed in 1835, was rebuilt by Sir G. G. Scott in 1864.

NORTH-WEST CORNER OF THE EXTERIOR OF THE OLD COURT OF KING'S COLLEGE,
with the east front of Trinity Hall, as it appeared before the fire of 1852.

Returning into the street, cross it, and visit

CLARE COLLEGE,

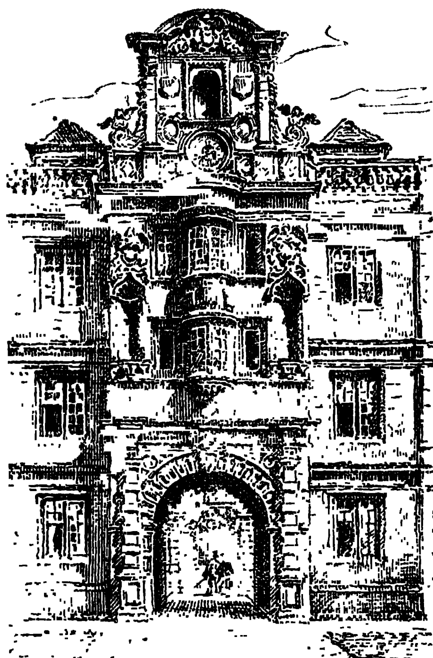
founded by the University as University Hall, 1326; refounded by Lady Elizabeth de Clare as Clare Hall, 1338. Rebuilt, 1638—1715. Name changed to Clare College, 1856.



ARMS OF CLARE COLLEGE.

On the right, projecting beyond the quadrangle to the east, is the Chapel. The rest of the buildings are disposed round a single quadrangle. The east and south sides and half the west side contain chambers; on the north side

(*right* on entering) is the Hall (approached by a flight of steps), and beyond it the Kitchen, with Combination Room and Library above. The north half of the west range contains the Master's Lodge. The gateway in this range, opposite to that by which we entered, gives access to the gardens, and over a bridge to the avenue leading to the ground west of the Colleges, popularly called "The Backs."



GATEWAY IN EAST RANGE OF CLARE COLLEGE;
from the interior of the Court.

These beautiful buildings, 'more like a palace than a college,' as Professor Willis said, should be carefully studied

as an example of the late use of Gothic forms (*e.g.* the fan-vault of the gate of entrance), and of ingenious adaptation at different periods to ensure a general harmony of style.

The first buildings of Clare Hall consisted of one small quadrangle close to the street. By the beginning of the seventeenth century these had become ruinous, and it was determined to build a new College in a new position. A piece of ground on the west side of the river having been obtained from King's College, the east side of the present College was begun in 1638.

The work went steadily forward till the south range was finished (1642). The style is Jacobean, and Loggan's print (1688) shews that the walls were originally finished with parapets instead of balustrades as at present, and that the windows were trefoiled. The west range was begun 1640, but was not carried far before the work was interrupted by the Civil War. When it was resumed in 1669 the southern half of the west range was made to correspond, towards the court, with the south and east ranges; but towards the river it is quite different, with Ionic pilasters, and windows having pediments and architraves. These windows have since been twice altered. They had originally transoms and mullions and high sills. The north range was begun 1683 and finished 1693. The unfinished half of the west range, containing the Master's Lodge and the gateways towards both court and river, was built between 1705 and 1707; but not completely finished till 1715. The quadrangle had therefore occupied seventy-seven years in building.

The Chapel, begun 1763 and consecrated 1769, has been but little altered. The Annunciation over the altar is by Cipriani. The easternmost stained glass window on the south side, representing the Foundress, was given in 1863 by the Rev. Joseph Power, Fellow; the remaining nine were executed by Wailes (1867–68) from a bequest of Rev. Tho. Hen. Coles, D.D.

In the Hall the plaster-ceiling, and the fireplace, ornamented with large oak figures, were designed, with other improvements, by Sir M. Digby Wyatt, architect (1870–72).

The Library contains some beautiful bookcases, originally made about 1627 for the old library, and transferred, with some alterations, to the new one.

Note the ironwork of the entrance-gate, and of the gate on the west side of the bridge, both probably made about 1714 by Warren, who also appears to have designed the gates at Exning House and elsewhere. The bridge was built 1640, by Thomas Grumbold, a master-mason, who very probably suggested, if he did not actually design, much of the stonework.

Leave Clare College by the gate through which you entered, and visit the College adjoining it on the north,

TRINITY HALL,

founded by Wm. Bateman, Bp. of Norwich, 1350.

This College has three courts; two towards the street, and one on the west side of the principal court. The entrance is now through the east building of the principal court, but originally the only entrance was through the smaller court. The gatehouse there had two archways, a large one for carriages, and a postern for foot-passengers. These archways, removed when the building of which they formed part was rebuilt in 1873, now stand at the back entrance in Garret Hostel Lane.



ARMS OF TRINITY HALL.

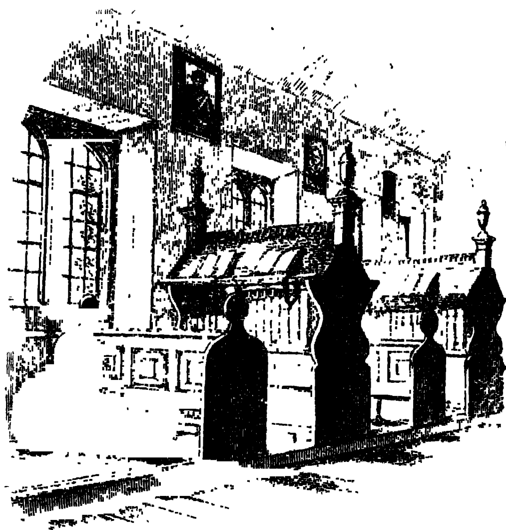
The buildings on the east and north sides of the court are occupied by chambers; at the south-west corner is the Chapel; and on the west (facing the entrance) the Hall, Buttery, and Kitchen. These buildings were all either built by the Founder or soon after his death; but they have since been much altered, especially in 1745, when they were faced with stone in a classic style. The east range was destroyed by an accidental fire, and rebuilt by Salvin, in 1852.

The HALL has lately been enlarged and a new oak roof added. Beyond it is a new COMBINATION ROOM, given by the Rev. Hen. Latham, M.A., the late Master. Among the portraits in the HALL note the following:

East Wall: Sir Alex. Cockburn, d. 1880, by Watts.
Richard Viscount Fitzwilliam (d. 1816) when an undergraduate. Copied by Lowes Dickinson from the original in the Fitzwilliam Museum.
Sir Hen. Ja. Sumner Maine, Master 1877–88. By Lowes Dickinson.

West Wall: Rev. Hen. Latham, M.A., Master, 1888–1902.
Hen. Fawcett, M.A., M.P., d. 1884.
Edw. Lytton Bulwer-Lytton, 1st Earl of Lytton, d. 1873.

The LIBRARY is approached by a staircase opposite to the door of the Hall. It was built in the reign of Elizabeth, but preserves earlier traditions in its plan and bookcases. Note that it is a long, narrow room, with windows of two lights at no great distance apart. The bookcases stand at right angles to the walls, between the windows, a seat for the reader being



LIBRARY OF TRINITY HALL. *The modern books are supposed to be removed.*

placed in front of each window. The books were chained to their cases, and the original iron bars and locks still remain. The chains now attached to some books are modern, and quite unlike those which would have been used originally. The cases are of an unusual construction, arranged so that a reader could either stand or sit, as he pleased. There was

only one shelf for books; and beneath this a desk that could be drawn out for the convenience of a seated reader.

Leaving the Library enter the west or Library Court, of which the Library forms the north side. Opposite to it is the Master's Lodge; and between it and Trinity College is a range of Chambers built 1892, and called the Latham Building, in com-



TRINITY HALL: *West Gable of Library, with part of* LATHAM BUILDING.

memoration of the late Master, who contributed largely to it.

In 1909–10 a range of buildings was erected at the N. W. corner of the College, after the design of Messrs Grayson and Ould of Liverpool who had also designed the Latham Building (1892), the enlargement of the Hall, and the new Combination

Room. The latest addition contains on the ground-base an undergraduate Common Room and Baths; on the first floor 3 lecture-rooms, and on the second 3 sets of undergraduates' rooms. This range is probably the only building in Cambridge standing on concrete piles, which are nearly all driven in to a depth of 30 feet to secure a firm foundation.

The Fellows' Garden, between the Masters' Lodge and the river, with its gigantic chestnut-trees, and terrace overlooking the water, should on no account be missed.

The side of the street opposite Trinity Hall, from Senate House Passage to Trinity Lane, is occupied by Gonville and Caius College, which should be next visited; but, in order fully to realise the curious conception of Dr Keys, or Caius, the second founder, walk up Senate House Passage, and, turning to the left into Trinity Street, enter by the gate opposite S. Michael's Church.

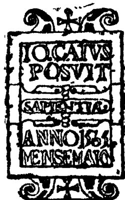
Gonville and Caius College,

founded, as Hall of the Annunciation, by Edmund Gonville, 1348. Removed to present site, 1351. Original court in building, 1351—1490. Second foundation by Dr Caius, 1557.

The first court entered, commonly called Tree Court, has on its north, east, and south sides buildings erected by Waterhouse 1868–70, to replace either dwelling-houses or ranges of chambers erected by the College after the death of Dr Caius. Before his mastership (1559–73) the College, as set out by Gonville's executor, was limited to a single court, which, though much altered, can still be seen at the north-west corner of the site and will be described below. Caius acquired ground to the south and east of Gonville's court, and built the additional court which bears his own name. A curious love for symbolism appears in his architectural works. His college was entered through a small and insignificant doorway, situated where the present entrance is, called the *Gate of Humility*. Thence the student passed along a straight road, shaded as now by trees, till he reached the *Gate of Virtue*, which leads into the court built


ARMS OF GONVILLE AND CAIUS COLLEGE.

by Caius. Notice the word VIRTVTIS on the frieze over the arch, and the female figures holding: (1) a palm-branch and a wreath; (2) a purse and a cornucopia. On the west side of the gate are the words IO. CAIVS POSVIT SAPIENTIÆ 1567, copied from the inscription which Caius is known to have placed on the foundation-stone. Hence the gate is sometimes, but wrongly, called *Gate of Wisdom*. Passing through the gate, we find ourselves in the second, or Caius Court, with Gonville's chapel on the right, and on the left a wall connecting the two ranges of chambers built by Caius. In these, practising Virtue, and cultivating



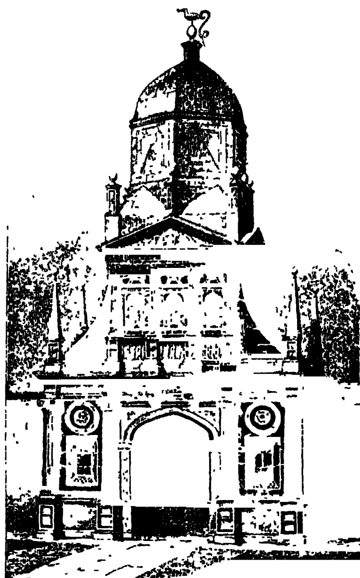


GATE OF VIRTUE, EAST FRONT.

Wisdom, the student passed his three years after which he passed through the *Gate of Honour* (opposite the Chapel) to the Schools, where the University honoured him with a degree. This gate, designed by Caius himself, was probably suggested, at least in its general outline, by a Roman tomb. Originally its appearance was very different from what we now see; but in our illustration, borrowed from the *Architectural History*, an attempt at a restoration has been made. At each angle, immediately above the lowest cornice, there was a tall pinnacle reaching almost to the second cornice. Another group of pinnacles rose from the junction of the middle stage with the hexagonal tower. On each face of the hexagon there was a sundial, and at its apex a weathercock in the form of a serpent and dove. In the spandrils of the arch next the Court are the arms of Dr Caius on an oval shield. On the frieze is the word HONORIS. At first the whole of the stonework was painted white, and some parts, such as the sundials, the roses in the circular panels, and the coats-of-arms, were gilt.

To the north of Caius Court is Gonville Court. His scholars were placed in the first instance in two substantial dwelling-houses standing in Trinity Lane; but, small as it is, a period of 140 years was required before successive alterations and additions had supplied it with all the buildings required for the collegiate life. The Chapel was built c. 1393, Hall, Master's Chamber, Library, west range and south range as far as Chapel, c. 1441; east range 1490. The classical facing was imposed in 1753. On the left, in the passage from Caius Court, is the door of the Master's Lodge: on the right, that of the Chapel. The medieval character of the Chapel was completely changed 1716–26, when the exterior was cased with freestone, the heavy buttresses built, and the interior fitted up in the style of that period. In 1870 Mr Waterhouse added an apse, and a turret-staircase in Caius Court; the fittings were a good deal modified at the same time. Note the tombs of Tho. Legge who succeeded Dr Caius as Master, d. 1607; on left that of Stephen Perse, M.D., d. 1615; and the very interesting tomb of Dr Caius, by Theodore Haveus of Cleves, put up 1575, two years after his death.

The Hall, Kitchen, Combination Room, and Library, built by Salvin, 1853, are approached from a vestibule on the left of Gonville Court.



GATE OF HONOUR.

In 1909–10 new panel-work was fitted up in the Hall with a beautiful gallery at the north end; and in connection with this work the old Hall (which had been converted into students' rooms) was added to the Library, and the old Library (similarly treated) was turned into an additional Combination Room). The architect employed was E. P. Warren. Among the portraits in the Hall note the following:

Above High Table: Joh. Caius, M.D., d. 1573. Joh. Cosin, D.D., Bp. of Durham, d. 1672. Jeremy Taylor, D.D., Bp. of Down and Connor, d. 1667. *West Wall:* Ch. Frc. Mackenzie, M.A., Miss. Bp. of S. Africa, d. 1862. Ern. Stewart Roberts, M.A., Master, 1903—1912. Clifford Allbutt (Sir), M.D., R.P. of Physic, 1892. Chr. Greene, M.D., R.P. of Physic, d. 1741. Joh. Brinkley, D.D., Bp. of Cloyne, d. 1835. Joh. Rob. Seeley, Litt.D., Prof. of Mod. History, d. 1895. *East Wall:* Wm. Baliol Brett, Baron Esher, d. 1899. Hen. Barclay Swete, D.D., R.P. of Divinity. Tho. Gresham, founder of Royal Exchange, d. 1579. Wm. Kirby, M.A.,

d. 1850., botanist and entomologist. Joh. Venn, Sc.D. Edm. Nelson, M.A., d. 1802. Father of Lord Nelson. *North Wall:* Sam. Clarke, D.D. d. 1729. Gabriel Harvey, d. 1630. Edw. Hall Alderson, M.A., d. 1857.

On leaving Gonville and Caius College cross the street to the

CHURCH OF S. MICHAEL,

a unique specimen of a church which accommodated both a parish and a college. It was rebuilt by Hervey of Stanton, Canon of York and Wells, and Chancellor of the Exchequer to Edward II., after he had founded, 1323, the College called Michael House, absorbed in Trinity College by Henry VIII.

When the collegiate system began, colleges, or, as they were then often called, "Houses of Scholars," had no separate chapel; but their inmates used the nearest parish-church, without any special privileges. In this case the church was appropriated to the College, so that the scholars (who were to be all priests and Masters of Arts) might perform all their religious duties in it at the appointed hours.

The church has been but little altered. The plan is a parallelogram, divided into five bays, all on the same level. The central aisle is about twice as wide as the side aisles. The easternmost bay forms a chancel, separated by walls from the south and north aisles respectively. At the end of the former is a chapel, at the end of the latter a vestry. Notice the sedilia and piscina in the chancel, and the niches in the south chapel, all of good Decorated work. The Founder probably intended to enclose the quire of his scholars, where he was himself buried, with a stone screen, a fragment of which is now used as the entrance to the south aisle, just beyond the sedilia. The present stalls probably represent his intentions, but they are of the 15th century. The large painting of King Charles I. was presented to the church about 1660. The stained glass in the east window commemorates Rev. W. J. Beamont, vicar, d. 1868.

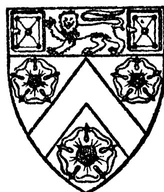
On leaving S. Michael's Church turn to the right, down Trinity Street. Rose Crescent, the first thoroughfare on the right, marks the site of the yard of the *Rose and Crown*, formerly one of the principal inns of Cambridge. The house faced to the Market Hill. A short distance further on on the same side of the street is a house with gables and a pretty plaster-work front, one of the few old houses left in Cambridge.

It was once the *Turk's Head* coffee-house, and is now *The Café*. Next to this is the *Blue Boar* Hotel, after which we reach

TRINITY COLLEGE,

founded by King Henry VIII., 1546. There were absorbed in the new College: (1) King's Hall, founded by Edward III., 1336; (2) Michael House, founded by Hervey de Stanton, Chancellor of the Exchequer to Edward II., 1323; (3) Physwick's Hostel, belonging to Gonville Hall; (4) some minor hostels.

Before entering the College note the building opposite to the Great Gate, containing WHEWELL'S COURTS. The first of these, entered from Trinity Street, was built by Dr Whewell (Master 1841-66) in 1859, the second immediately after his death by his executors. The architect of both courts was Mr Salvin. The site and buildings were bequeathed to the College in trust to provide accommodation for students, and an endowment for a Professor, and eight scholars in International Law.

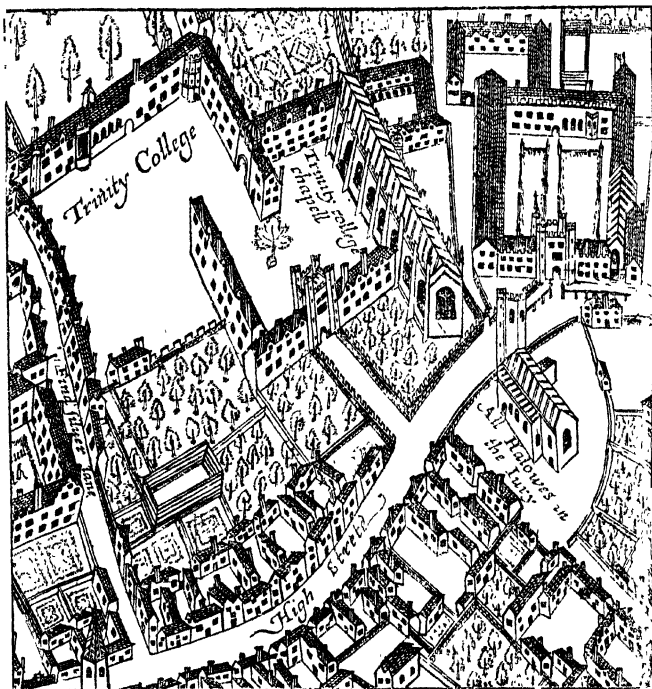


ARMS OF TRINITY COLLEGE.

Before entering Trinity College we will note briefly the history of the buildings surrounding the Great Court. W give below part of the Plan of Cambridge drawn by John Hamond in 1592, one year before the election to the Mastership of Dr Thomas Nevile (Master 1593—1615), to whose taste and courage, aided by the architect Ralph Symons, who had been already employed at S. John's College and elsewhere (p. 56), the present noble quadrangle is due. This plan shews the difficulties he had to surmount before he could reduce to order a confused and inconvenient mass of buildings, partly inherited from King's Hall and Michael House, partly due to ill-directed efforts to alter and adapt previous structures to the use of one large College.

The plan shews the Great Gate, in all essentials as at present. This was the last work of King's Hall, built 1518—1535. North of the gate is the Chapel, built 1555—1564, on ground previously occupied by the Hall and Chapel of King's Hall. The range of chambers between the Chapel and the Gate, and a similar range south of the Gate, were built 1557. The range at right angles to the last-mentioned, jutting out into the court, had been built by King's Hall in 1490. At the north-west corner of the Chapel a small court is shewn, or rather part of one, for it was curtailed to some extent by the erection of the Chapel of Trinity College. This represents the original court of King's Hall, built 1375—1425. The west side of it, much altered, still exists at the east end of the Bowling Green of Trinity College. The range of building running south from the west end of the Chapel, with a gateway-tower and a return in the

direction of the Great Gate, was built by King's Hall 1427–37. The gate is King Edward's Gate, the first gateway-tower with four turrets erected in Cambridge (see above p. 21). It then stood at the end of a lane called Le Foule Lane, which opened out of the lane called



TRINITY COLLEGE AND S. JOHN'S COLLEGE:
from Hamond's Plan of Cambridge, 1592.

S. Michael's Lane or Trinity Lane south of the College, and provided the sole means of approach to King's Hall before the Great Gate was built. On the west side of the court a building is shewn with an oriel and a row of four windows. This probably represents the Hall of Michael House. To the right of it is a large chimney, no doubt indicating the kitchen of the same House. These offices were used by

Trinity College, and the range containing them was prolonged, and returned to King Edward's Gate in 1551, to provide a Lodging for the Master. On the south side of the court, opposite the Chapel, is a row of houses—probably portions of Michael House and Physwick Hostel. Between these and the Great Gate are gardens and a tennis-court.

Nevile's first work was the completion of the range on the east side of the quadrangle. This was succeeded by the erection of the southern range, with the Queen's Gateway, and the removal of the chambers which projected into the court from the east range. Next, keeping for a time the old Hall and Kitchen, he prolonged the western range northwards, and returned it in the direction of the Chapel. This must have been the most difficult part of his work, for it involved the destruction of two ranges of building, with the evidently venerated gateway of King Edward the Third, which was rebuilt against the west end of the Chapel.

We will now examine the Great Gate. Note the unusual arrangement of a large and small gate side by side, separated by a stone pier; and the four flanking turrets, of which the internal are larger than the external. Note also the style of the ogee panels and other details of the ornamentation. The whole composition appears to be much earlier than the known date of the construction of the gate (1518–1535). The space between the crown of the arch and the window is divided into seven panels, commemorating King Edward the Third and his six sons, as follows, proceeding from left to right:

1. France ancient and England quarterly, label of three points each charged with a torteau. EDMONDUS D. EBOR. C. CANTABRUGIE. [Edmund, Duke of York, b. 1341; d. 1402.]

2. France ancient and England quarterly, label argent; on each point a canton between two roses. LEONEILUS D. CLARENCIE. C. DE VLSTER. [Lionel, Duke of Clarence, b. 1338; d. 1368.]

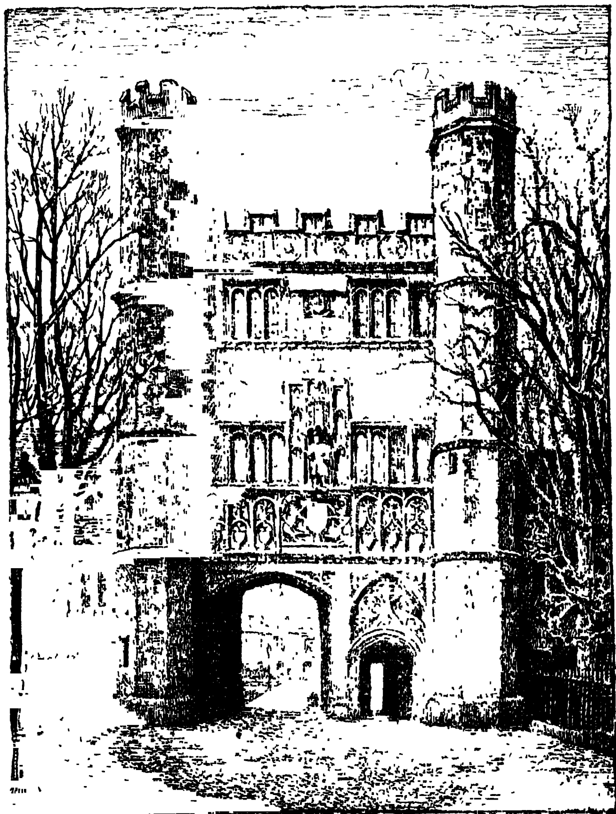
3. France ancient and England quarterly, label of three points argent. EDVARDUS P. WALLIE. V°. BLACK PRINCE. On the stone work on each side of the shield are painted 3 ostrich-feathers, with the motto *Ich dien*. [Edward the Black Prince, b. 1330; d. 1376.]

4. France ancient and England quarterly on a stone shield supported by two lions, for KING EDWARD THE THIRD, founder of King's Hall. Beneath this shield is a very small one, on which are three stags trippant, for GEOFFREY BLYTHE, Master of King's Hall (1498—1528), during whose mastership the gate was begun. Beneath the panel, on a sheet of metal, are the words: EDVARDUS TERTIVS FUNDATOR AVLE REGIS MCCCXXXVII.

5. Shield blank. GUILL'MUS DE HATFELD. DEMORTUUS INFANS. [William of Hatfield, b. 1336; d. in infancy.]

6. France ancient and England quarterly, label ermine. IOHANNES D. LANCASTRIE. V°. JOHN OF GAUNT. [John of Gaunt, Duke of Lancaster, b. 1340; d. 1399.]

7. France ancient and England quarterly, label of three points argent; on the points a fleur-de-lis and two crosses, all in a bordure argent. THO^s. D. GLOVCESTRIE. C. ESSEXIE. [Thomas, Duke of Gloucester, b. 1355; d. 1397.]



GREAT GATE OF TRINITY COLLEGE: EAST FRONT.

The statue of King Henry the Eighth, in the niche between the windows, was added by Nevile in 1615. The panel between the upper windows contains a quatrefoil and shield bearing France modern and England quarterly.

The west front is quite different, and bears trace of hasty completion in a different material and style from what was originally intended. The three niches, by their style, were added by Nevile. In the central niche is King James the First; on his right his Queen, Anne of Denmark; on his left Prince Charles. Above the upper window are the Royal Arms, supported by the Lion and the Unicorn; and over each lateral niche a stone shield with supporters, probably "the Queene and Princes Armes," put up 1614–15. The whole composition commemorates the two visits of King James in 1615.

Turn to the right along the flagged walk leading to the Chapel. The rooms on the first-floor next to the Gate were occupied by Sir Isaac Newton from 1679–1696; those beneath by William Makepeace Thackeray; and those on the opposite side, next the Chapel, by Thomas Babington Macaulay.

Enter the Chapel. The porch was built 1872, Sir A. W. Blomfield, architect. The building was finished about 1564 (see inscription on east gable) and at once fitted up for service. But the fittings of that period no longer exist, and the organ-screen, stalls, panelwork, and baldacchino over the altar were put up during the mastership of Dr Bentley (1700–42), and have not been seriously altered since. The decoration of the roof and walls, and the filling of most of the windows with stained glass, were undertaken 1871–75, the cost being defrayed by subscription. The general scheme (for the quire) was suggested by Dr Westcott and Dr Lightfoot, and carried out by Messrs Heaton, Butler, and Bayne. The decoration of the roof represents, in subjects illustrating the *Benedicite*, the Hymn of Creation, leading up to the manifestation of the Divine Glory which occupies the four easternmost bays; the decoration of the walls, advancing from west to east, the preparatory discipline of the patriarchal, legal, and prophetic periods, leading up to the figures of the Baptist and the Blessed Virgin on the east wall. The altar piece, between these figures, represents the Triumph of Christ, in the Entombment crowned by the Ascension. The windows, advancing

from east to west, represent the historical development of the course of Christian Life.

The subjects of the wall-paintings between the windows are as follows, beginning from the west end:

SOUTH SIDE.

ADAM: the Apple, freshly tilled ground, and the four rivers of Paradise below.

MELCHISEDEC: the Vine, wheat below. Gen. xiv. 18.

JACOB: the Palm.

DAVID: the Cedar, as the royal tree. Psalm xcii. 12; Ezek. xvii. 22—24.

JOSIAH: the Oleander: selected, as being one of the most striking shrubs of Palestine, to symbolize the reform under Josiah.

EZRA: the Almond: intended to mark the fresh organization of the law under Ezra. Numbers xvii. 8; Jeremiah i. 11.

NORTH SIDE.

NOAH: the Olive; a rainbow, dove and olive branch above; a dead raven lying in the water below; a pair of peacocks stand under the olive-tree.

ABRAHAM: the Oak; beneath is a ram, caught in a bramble by his horns. Gen. xii. 6, xiii. 18, xxii. 13.

MOSES: the Papyrus; a pair of the sacred Ibis, with the Nile, below.

AARON: the Acacia; a species of Acacia (*Acacia seyal*) has been identified with the tree called *Shittah*, out of the wood of which the Ark and the table for the shewbread were constructed. Exodus xxv. xxvi.

JOSHUA: the Pomegranate, Fig, and Vine. Deut. viii. 8.

ELIJAH: the Juniper; the waters of the brook Cherith, below.

DANIEL: the Willow; the waters of Babylon, below.

MALACHI: the Frankincense Tree, in reference to the prophecy of Malachi (i. 11), which foreshadows an abiding and universal worship.

*** The wider wall-space opposite to the organ bears, on each side, an angel carrying a scroll. On these scrolls is inscribed the first verse of the Latin hymn *Jesus dulcis memoria*, generally attributed to S. Bernard, with the old tune in plain-song notation. Above is a square medallion, in which is an angel blowing a trumpet.

The 15 windows of the quire contain figures of men and women, eight to each window, arranged as nearly as possible in historical sequence. The order of the windows, and of the figures, is from east to west, the lower lights preceding the upper lights in each window. In order to obtain an exact historical sequence the windows on the north side must be considered in conjunction with those on the south side; but the grouping of each individual window is mainly determined by unity of subject. The figures in the different periods are

chosen with the view of representing characteristic features or movements of the time in which they lived. For instance, in the window illustrating Latin Christianity, Charlemagne represents Empire; S. Thomas Aquinas, Scholasticism; Louis IX., the Crusades; Dante, Medieval thought; Columban, Missions; Gregory VII., Ecclesiastical Organization; S. Francis, Devout Life; Giotto, Art.

As the name of each figure represented is given in the glass, we need only indicate the subject which the whole window is intended to illustrate.

	North Side.		South Side.
I.	Disciples of Christ.	I.	Evangelists and Teachers.
II.	The Ante-Nicene Church.	II.	The Church of the First Days.
III.	The Western Church.	III.	The Eastern Church.
IV.	Latin Christianity.	IV.	The Anglo-Saxon Church.
V.	English Ecclesiastical Life before the Reformation.	V.	English National Life before the Reformation.
VI.	Founders and Benefactors of the University and College.	VI.	The English Reformation.
VII. VIII.	Worthies of the College.	VII.	University and College Worthies.

Note also the intarsia work of the panels in the sacrarium. It was given by A. J. B. Beresford-Hope, M.A., and executed in Kent, by workmen instructed by himself.

The organ was built by Father Smith (1708), virtually rebuilt by Messrs Hill (1870), and further enlarged by the same firm (1889).

In the Ante-Chapel are the following memorial statues;

1. Sir Isaac Newton, by Roubiliac; given by Dr Smith, Master, 1755.
2. Lord Bacon, by Weekes; given by Dr Whewell, Master, 1845.
3. Dr Isaac Barrow, by Noble; given by Lord Lansdowne, 1858.
4. Lord Macaulay, by Woolner; given by subscription, 1868.
5. Dr Whewell, by Woolner; executed for the College, 1872.
6. Lord Tennyson, by Thornycroft; given by Henry Yates Thompson, scholar of the College, and Mrs Thompson, 1909.

Among the graves of distinguished members of the College the following may be mentioned: Richard Bentley, d. 1742, on north side of altar; Richard Porson, d. 1808, between statue of Barrow and the wall, tablet with bust by Chantrey on west wall above; Peter Paul Dobree, d. 1825, on corresponding space on opposite side; John Wordsworth, d. 1839,

in front of Newton's statue, with tablet on south wall; William Whewell, d. 1866; Adam Sedgwick, d. 1873, both in centre of ante-chapel.

On leaving the Chapel examine first KING EDWARD'S GATE. As explained above it was rebuilt in this position by Nevile, about 1600. Its original position may be roughly indicated by that of the sundial. It had originally four turrets, one of which was a large staircase-turret. The statue of King Edward, with the niche, and most of the ornamentation, was added by Nevile.

The doorway next beyond the gate leads to the BOWLING-GREEN, but it is not public. The range which bounds it on the east formed part of King's Hall. The cloister on its E. face is well shewn by Hamond (p. 34). The whole has recently been restored by W. D. Caröe, architect.

On leaving the Bowling-Green note the façade and oriel window of the MASTER'S LODGE (*right*), built 1842–3.

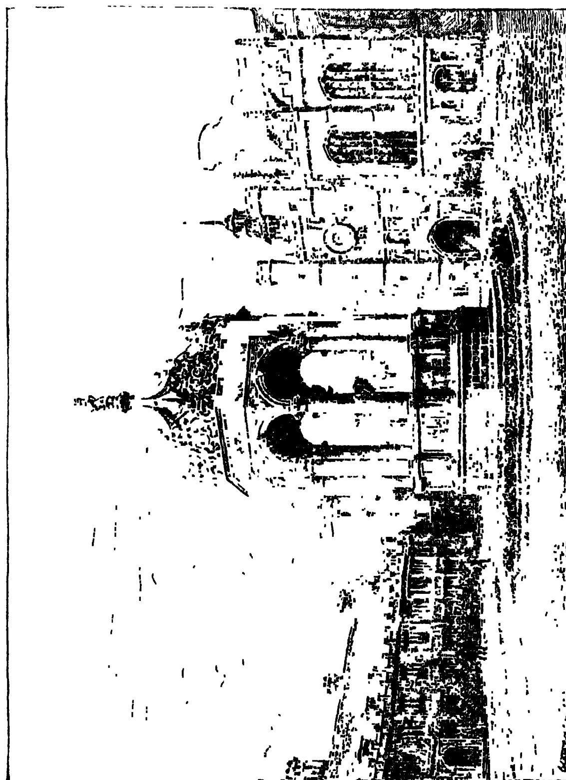
Next cross the court to the FOUNTAIN, a beautiful specimen of Renaissance work built by Nevile, 1602, and rebuilt with a few changes, 1716. It is supplied with water from a field on the Madingley road, distant about 1834 yards from the College. The conduit was originally laid down by the Franciscans (now represented by Sidney Sussex College, p. 88) in 1325; annexed, in part, by King's Hall in 1439; and confirmed to Trinity College by Henry the Eighth.

Notice next the QUEEN'S GATE in the south range, built by Nevile, and finished in 1597, when the statue of Queen Elizabeth was placed on it. It was evidently intended to be a pendant, both in position and style, to King Edward's Gate.

The structure between the Hall and the corner of the court, in a plain classical style, was built by James Essex 1770–75. It contains the COMBINATION ROOMS on the first-floor, with part of the kitchen-offices below, and chambers above.

The HALL, built by Nevile, 1604–8, should next be visited. Note the beautiful Renaissance porch at the top of the steps. Before entering the screens take a view of the Great Court, best seen from this point. Note that none of the angles are right angles; that no side is of the same length as the side opposite to it; that no principal building on any side is in the centre of that side; and that the Fountain is not at the intersection of the diagonals.

The Hall was copied from that of the Middle Temple, London, both in dimensions and ornament. Note especially the open roof and the carved work of the screen.



GREAT COURT OF TRINITY COLLEGE:
shewing the Fountain, Master's Lodge, King Edward's Gate, and part of Chapel.

Among the numerous portraits note the following:

Left: Cha. John Vaughan, D.D., d. 1897: Ouless, 1894.
Henry Jackson, Litt. D.: Furse, 1889.

Fenton John Ant. Hort, D.D., d. 1892: G. P. Jacomb Hood.
Will. Whewell, D.D. (d. 1866), as a young man: Lonsdale.
Tho. Jones, M.A., Tutor 1787—1807.

In Oriel: Jos. Barber Lightfoot, D.D., Bp. of Durham, d. 1889: Richmond, 1889.
Edw. White Benson, Abp. of Canterbury, d. 1896: W. E. Miller.

Left wall of dais: Richard Bentley, D.D., d. 1742: Hudson, 1710.
Will. Makepeace Thackeray, d. 1863: Lockhart Bogle.
Will. Hepworth Thompson, D.D., d. 1886: H. Herkomer, 1881.

Right wall of dais: H.R.H. the Duke of Gloucester, as a child: Sir Joshua Reynolds.
Alfred Tennyson, d. 1892: Watts, 1890.

Right wall: Sir Michael Foster: H. Herkomer, 1893.
Art. Cayley, d. 1895: Lowes Dickinson, 1874.
Hen. Richards Luard, D.D., d. 1891: Lowes Dickinson, 1897.
Fre. Denison Maurice, M.A., d. 1872.
Edw. Hen. 15th Earl of Derby, K.G.: after G. Richmond.
Ja. Clerk Maxwell, M.A., d. 1879: Lowes Dickinson.

The KITCHEN, entered from a door in the screens opposite to those of the Hall, was built 1605.

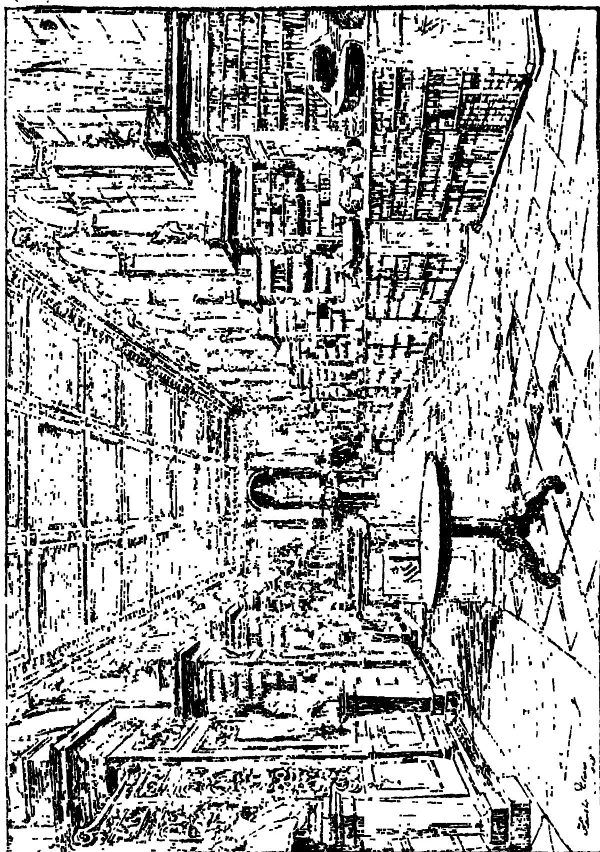
Leave the screens by the door opposite to that by which you entered, and pass into NEVILE'S COURT, sometimes called the Cloister Court. The terrace at the east end, with balustrades and steps, and niches surmounted by a pediment, was built in 1682, probably after a design by Wren.

Nevile's Court was built at the sole expense of Dr Nevile, and completed about 1612 in a florid style of Jacobean architecture, as we learn from Loggan's print (1688). It then extended for only three-fifths of its present length, and was terminated, westwards, by a wall, in the centre of which was a lofty stone gate, now used as the entrance to the New Court (p. 47). The two westernmost divisions, or eight arches, were added 1676–81. The whole was altered 1755.

Lord Byron had rooms in this court. They are said to have been those nearest to the Library on the first-floor of the central staircase on the north side.

Turn to the right, and walk down the north cloister to the door of the LIBRARY, which closes the court towards the west. This noble building, designed by Sir Christopher Wren, was built 1676–95. The general plan was evidently suggested by the Library of S. Mark, Venice, built by Sansovino about

1536. The Italian architect, like Wren, raised his library on a cloister in the Doric style, while the superstructure is Ionic; but the arcades are open, because there was no



INTERIOR OF TRINITY COLLEGE LIBRARY.

necessity for accommodating the height to that of adjoining buildings. Wren, on the contrary, felt himself obliged to place the floor of his library on the same level as that of the chambers on the first-floor of the adjoining court. Note the genius with which he overcame this difficulty, and also that of providing a lofty wall for the bookcases to stand against, with broad and high windows above it.

The tympanum of the central arch contains a bas-relief representing King Ptolemy the Second receiving the Septuagint from the Translators. The four figures on the balustrade, by Gabriel Cibber, represent Divinity, Law, Physics, Mathematics.

On entering the Library note the excellence of (1) the proportions (200 feet long, 42 feet wide, and 37 feet high); (2) the lighting; (3) the general effect produced by a combination of books, bookcases, and statuary.

The arrangement of the bookcases was suggested by Wren himself. "The disposition of the shelves both along the walls and breaking out from the walls," he says in a letter explaining his design, "must needes prove very convenient and gracefull, and the best way for the students will be to have a little square table in each Celle with two chaires." The lining of the walls of a library with shelves was then unusual, the medieval practice of arranging the cases at right angles to the walls (as at Trinity Hall, p. 26) being still in use. These bookcases (of Norway oak) were made by Cornelius Austin, a carpenter of Cambridge, under Wren's supervision. Note especially the wreaths of fruit, flowers, and arabesques carved in lime-wood, by Grinling Gibbons. Wren intended to place statues on the ends of the cases, and square pedestals were provided for them, but their places have been taken by busts. The four classes (two at each end of the room) closed with doors, for the safe keeping of MSS. and papers, were also designed by Wren.

Marble busts of distinguished members of the College are ranged round the room. As each bust bears the name of the person represented, and also that of the sculptor, it is not necessary to enumerate them. Note the long series by Roubiliac, viz.: Bacon, Barrow, Bentley, Coke, Cotton, Newton, Ray, Trevor, Whitworth, Willoughby.

At the south end of the room is Thorwaldsen's statue of Lord Byron, originally executed (1831) in the expectation

that it would be placed in either S. Paul's Cathedral or Westminster Abbey. On its arrival in England it was refused admission to the Abbey by Dean Ireland, and again (in 1842) by Dean Turton. Thereupon a member of the College, Charles de la Pryme, M.A., informed the Master (Dr Whewell) of what had been done, and that the statue had been lying for about 12 years in the vaults of the Custom House. The subscribers were presently informed that Trinity College would gladly receive it, and they, in public meeting assembled, agreed to present it, on condition that it was placed in the Library. The following description is from the *Life of Thorwaldsen*:

> The Poet, in modern costume, is seated upon the ruins of some Greek columns. His head is uncovered. He holds in his hand his poem *Childe Harold*, and raises towards his chin his left hand, holding a pen. On one side of the Greek fragment is ΑΘΗΝΗ with the owl; on the other Apollo's lyre and a gryphon. A Death's head is upon the broken column. The bas-relief represents the Genius of Poetry, who tunes his lyre, and rests his foot upon the prow of a skiff.

Note the cast of Sir Isaac Newton's face, taken shortly after death; and the ancient telescope associated with his name, though it may be doubted whether it was ever actually used by him.

In a table-case near this end of the Library is a manuscript book which once belonged to Milton. It contains *Lycidas*, *Comus*, and other poems, with the first sketch of *Paradise Lost*, when the poet intended to write it in the form of a drama. Other cases contain the MSS. of Thackeray's *Esmond*; of Tennyson's *In Memoriam*, and of the *Poems by Two Brothers* by Charles and Alfred Tennyson. Some interesting illuminated manuscripts are also exhibited.

On leaving the Library turn to the right into the grounds between it and the river. Note the iron-work of the two gates, and of the arches on the west side of the cloister, made 1691–92 by "Mr Partridge the London Smith," presumably under Wren's direction.

Walk to the bridge (built by Essex 1763–65) to see the Avenue and view of S. John's College. The chestnut trees along the edge of the stream separating Trinity College from S. John's College were planted 1676–77; the avenue west of the bridge 1671–72; and the part between the bridge and the College 1717. The iron gates at the end of the avenue were

given (1733) by the Hon. Hen. Bromley, of Horseheath, M.P. for Cambridgeshire, but the date of their construction is not known.



THINITY COLLEGE, BRIDGE AND AVENUE,
with part of Library and Gate leading into the New Court.

From the bridge enter the New Court, or King's Court, built from the design of Wilkins 1823–25. Arthur Hallam

had rooms in this court, on the first-floor of the central staircase opposite Nevile's Court—the set on the right as you face the staircase. The lines of Tennyson

> and last
> Up that long walk of limes I past
> To see the rooms in which he dwelt,

have frequently been held to imply that his friend's rooms looked on to the walks. Tennyson himself did not reside in college.

Leave the New Court by the gate opposite to that by which you entered. You pass (*right*) BISHOP'S HOSTEL, a separate building erected 1670 at the sole charge of Dr John Hackett, Bishop of Lichfield and Coventry, for the use of members of the College, the rents to increase the income of the Library. Behind this are two ranges of chambers in red brick, built on the site of the stable-yard, 1878, after the design of Sir A. W. Blomfield, architect.

The gate of entrance from the street at Bishop's Hostel is NEVILE'S GATE (p. 42). It bears the following arms:

East Front. The Royal Arms, as in the Hall, encircled with the garter, and supported by the lion and the unicorn. On the south side is a rose, and on the north side a thistle; the badges of England and Scotland respectively. On each pier of the gate, below these badges, is a shield: that on the south side bears Trinity College, that on the north side Magdalene College; both impaling Nevile. In the spandrels of the arch are two smaller shields; one charged with the saltire; the other fretty with a canton ermine, being the first and second quarter of the Nevile arms.

West Front. The arms of Nevile, quartered as follows: 1 and 2 Nevile, 3 Bulmer, 4 Alban of Middleham, 5 Glanville, 6 Clavering. On each side is one of the Nevile crests; on the north side a pied bull's head charged with a red rose, on the south side a galley. On the piers, below these, are two shields: that on the north side bears the Deanery of Canterbury, that on the south side the Deanery of Peterborough, both impaling Nevile. In the spandrels of the arch are the arms of Trinity College on the north side; and on the south side a bend raguly with a portcullis on a canton, for W. H. Thompson, D.D., Master; impaling three annulets on a bend cotised (the Selywn arms), for Mrs Thompson.

Return to the Great Court through a passage opposite Bishop's Hostel; cross it, and pass through the Great Gate into Trinity Street. Then turn to the left and walk towards S. John's College. The open space on the right, with the stone cross in memory of Henry Kirke White, marks the site of the

Church of ALL SAINTS, or, ALL SAINTS IN THE JEWRY, pulled down 1865. Beyond this is

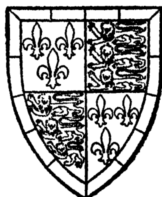
THE SELWYN DIVINITY SCHOOL,

completed 1879 after a design by Basil Champneys, architect, at the joint cost of the University and the Rev. Wm. Selwyn, B.D., Lady Margaret's Professor of Divinity (1855–75), who contributed nearly £9000. Part of the building contains rooms for the use of the Literary Professors. Opposite to this is

S. JOHN'S COLLEGE,

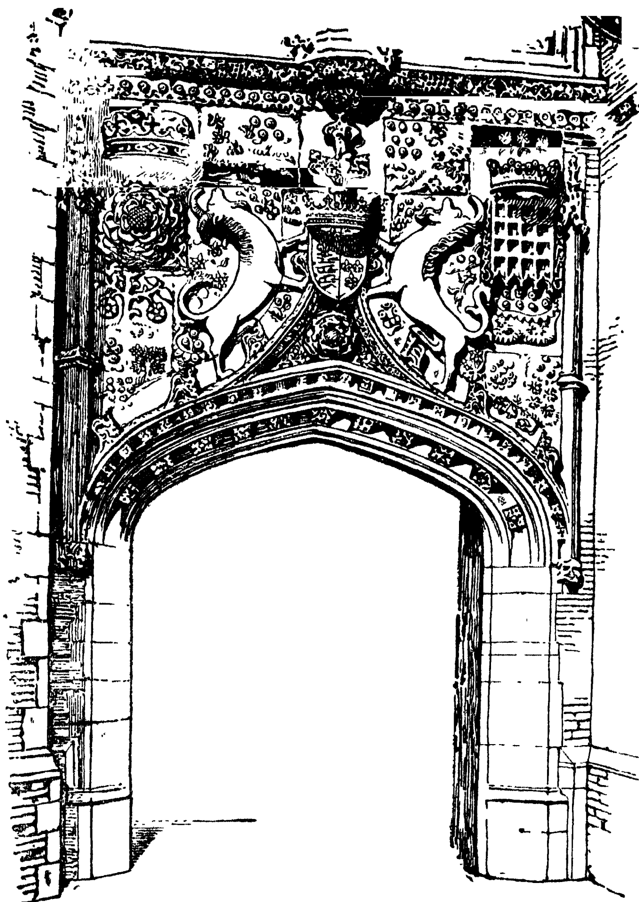
founded by the Lady Margaret Beaufort, Countess of Richmond and Derby, mother of King Henry the Seventh, 1511, on the suppression of the Hospital of S. John the Evangelist founded 1135.

Note the picturesque façade, almost unaltered, and then the gate of entrance, the most beautiful of all the Cambridge gateway-towers. Like the others it is in two floors, with four turrets, of which that at the south-west angle is the largest, as it was built to contain the staircase leading to the original Library, the room with windows close together on the first-floor next to the gate.



ARMS OF S. JOHN'S COLLEGE.

The ornamentation of the gate commemorates the Lady Margaret. The string-course between the first and second stages is formed of the branch of a vine bearing leaves and fruit. Two portcullises and two roses are set among the foliage. Below this string-course is a band of daisies or *marguerites*, in allusion to the name of the Foundress. These bands project outwards in the centre of the façade and form a bracket for the niche containing the statue of S. John. This statue was set up in 1662, probably to replace an older one destroyed in the Civil War. Below the bracket the hood-mold of the arch terminates in a bold finial. The shield beneath the finial bears the arms of France and England quarterly, crowned, and supported by the antelopes of Beaufort. Beneath the shield in the triangular space formed by the arch



ENTRANCE GATEWAY OF S. JOHN'S COLLEGE.

and the rising branches of the hood-mold is a rose. To the right of the central device is a portcullis, to the left a rose, both crowned. The crown of the former has the points composed of bunches of daisies, and the whole ground of the spandrel-space is covered with daisies and other flowers. In the second stage the window to the left of the niche is surmounted by a rose, and that to the right by a portcullis, both crowned.

This gateway admits to the FIRST COURT, built 1510–20. The south side was rebuilt in a classical style by Essex 1772. The Kitchen, Butteries and Hall form the west side. The original Master's Lodging and Chapel, which formerly stood on the north side, were pulled down 1869, but their extent may still be traced. Turn to the right and visit the NEW CHAPEL designed by Sir Geo. Gilb. Scott, and built 1864–69, of Ancaster stone in a style intended to be that prevalent in England about 1280, and used for the Hospital which preceded the College.

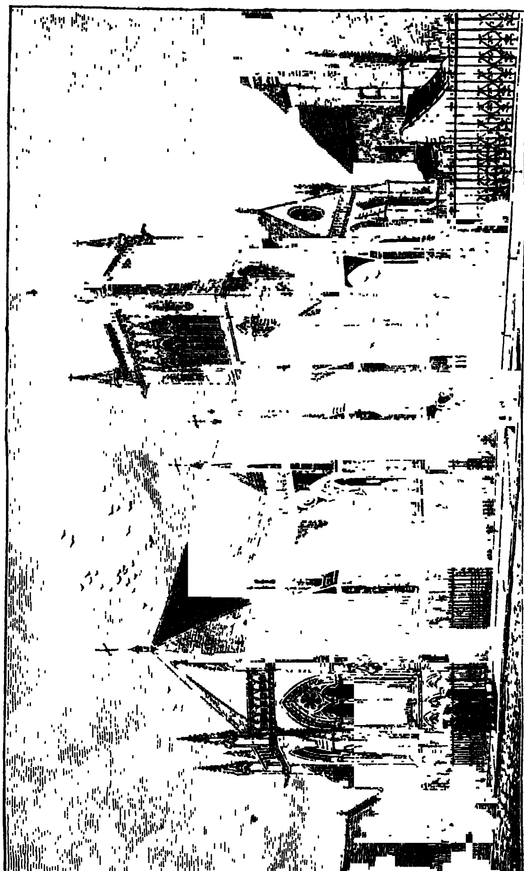
The Chapel is 172 feet long and 34 feet broad internally; the transeptal ante-chapel 32 feet long and 75 feet broad; the tower 140 feet high, or, to the top of the pinnacles, 163 feet.

On entering the ante-chapel note (*left*) the arches through which the chantry of Bishop Fisher, on the north side of the old Chapel, was entered. The central arch is original, the lateral arches new. Note the defacement of the Bishop's arms.

The glass in the west window, by Messrs Clayton and Bell, representing the Last Judgment, was given by the Bachelors and Undergraduates, 1869. The fragments of stained glass that were in the east window of the old Chapel now fill the central window of the three on the west face of the tower immediately above this window. The seated statue of James Wood, D.D. (Master 1815–39) is by E. H. Baily, R.A. Behind this against the wall (*left*) is a tablet to commemorate the poet Henry Kirke White, d. 1806. The medallion is by Chantrey; the verses by Professor Smyth.

Note next the monument of Hugh Ashton, a learned ecclesiastic, comptroller of the household to the Lady Margaret, and founder of four fellowships and scholarships in this College. It stood originally in his chantry on the north side of the old

Chapel. On the 'ledger' lies a painted recumbent effigy of Ashton vested in his academic robes. Beneath is a second



NEW CHAPEL OF S. JOHN'S COLLEGE.

effigy representing him as an emaciated corpse, according to the directions in his Will. Round the edge of the 'ledger' is an inscription on a bronze label, recording his benefactions and the date of his death. Over the whole tomb is a stone canopy, formed of two four-centered arches, joined by panel-work, in the spandrels of which Ashton's rebus, an ash leaf growing out of a tun, is carved. The whole is finished above by a stone cresting. A grating of contemporary ironwork, also bearing his inscription, protects the sides of the tomb. The rebus occurs again at the four corners of this grating, and in the middle of each side.

In the north transept the two windows on the north face commemorate Ralph Tatham, D.D. (Master 1839–57); and the window on the east face, John James Blunt, B.D. (Lady Margaret Professor 1839–55).

The tower opens into the quire by one large arch, and into each of the transepts by two arches. The piers are of Ketton stone. The piers which subdivide the arches opening to the transepts to the north and south have each four detached shafts of red Peterhead granite. The other piers have clusters of shafts of Devonshire, Irish, and Serpentine marbles. The abaci of all the piers are of black Derbyshire marble. There are shafts of Devonshire, Irish and Serpentine marbles at the sides of the windows in the ante-chapel, except of those in the second stage of the tower.

The quire is of seven bays, with a five-sided apse. The vaulting-shafts are of different British marbles, like those in the ante-chapel. Their capitals are on a level with those of the window-shafts; and above each capital is an ornamental niche, containing statues of the following Saints, taken in order from east to west:

NORTH SIDE.	SOUTH SIDE.
S. John, as Evangelist.	S. John, as Apostle.
S. Luke.	S. Paul.
S. Mark.	S. Peter.
S. Matthew.	S. Thomas.
S. Bartholomew.	S. Philip the Apostle.
S. James the Great.	S. Andrew.
S. Jude.	S. James the Less.
S. Matthias.	S. Simon.
S. Stephen.	S. Barnabas.
S. Philip the Deacon.	S. Silas.

The 'sacrarium' is enriched by an arcade, formed of pairs of arches placed within larger ones, and decorated with shafts of Dèvonshire, Irish, and Serpentine marbles. The abaci are of the red marble known as the Duke of Devonshire's marble, and were presented by the late Duke, then Chancellor of the University. Within each of the larger arches, and above the two included smaller ones, is a quatrefoil bearing an angel, issuing from a cloud, and playing on an instrument of music. The spandrels of the larger arches are carved in diaper work.

Note the piscina, of good Early English work, brought from the old Chapel.

The roof of the quire, of a very high pitch, is composed of quadripartite vaulting in oak. This is decorated by a continuous line of full-length figures. In the central bay at the east end is Our Lord in Majesty. The other bays contain a series of figures illustrative of the eighteen Christian centuries, proceeding in order from east to west.

The stained glass windows in the quire are by Messrs Clayton and Bell. They represent scenes from Scripture at which S. John was present. His figure, vested in ruby and green, occurs in each picture. There are two pictures in each window, extending across all the lights. In the following list of subjects, which begins at the west end of the north side, the numbers (1) and (2) designate the upper and lower subjects respectively. The commemorative inscription is placed just above the cill in each window.

I.

1. Marriage at Cana.
2. Testimony of S. John Baptist to Christ.

II.

1. Raising of Jairus' daughter.
2. Call of S. John.

III.

1. Transfiguration of Christ.
2. SS. James and John, with their mother, ask Christ for the highest places.

IV.

1. Raising of Lazarus.
2. SS. Peter and John sent to prepare the Passover.

V.

1. Last Supper.
2. Manna in the Wilderness.

We now come to the apse, in which there are five windows, each of two lights, with a sexfoil in the head. Each sexfoil contains a half-length figure of Christ, except that in the central window, which contains a Lamb and Banner. Each of the two lights below contains three pictures, the upper representing figures in contemplation, the two lower scenes from the Passion, Crucifixion, and Resurrection of Christ. The glass in these five windows was given by the Earl of Powis. In the following list the windows are counted from the north side, and the subjects from the top of each light.

I.

1. Patriarchs.
2. Christ washing the Disciples' feet.
3. Mary anointing the feet of [Christ.
4. Kings.
5. The Agony in the Garden.
6. The Betrayal.

II.

1. Prophets.
2. Christ before the High Priest.
3. Christ taken prisoner.
4. Priests.
5. Pilate shewing Christ to the [people.
6. The Flagellation.

III.

1. Apostles.
2. The Crucifixion.
3. Christ bearing the Cross.
4. Men of Apostolic Times.
5. The Deposition.
6. S. John leading the Virgin [home.

IV.

1. Martyrs (men).
2. The Body of Christ prepared for burial.
3. Joseph of Arimathea begs the Body of Christ.
4. Martyrs (women).
5. The Entombment.
6. Nicodemus bringing spices.

V.

1. Bishops and Doctors.
2. The Resurrection.
3. SS. Peter and John at the sepulchre.
4. Priests and Deacons.
5. Christ appears to Mary Magdalene.
6. Mary Magdalene at the sepul[chre.

The following are the subjects in the windows on the south side, counting from the east:

I.

1. Christ appears to the Disciples.
2. Consecration of Aaron

II.

1. The Ascension.
2. Elijah carried up to Heaven.

III.

1. The Descent of the Holy Spirit.
2. Moses with the Tables of the Law.

IV.

1. S. Peter's inquiry touching S. John.
2. The great draught of fishes.

V.

1. SS. Peter and John heal the Lame Man.
2. The Lame Man before the Council.

VI.

1. SS. Peter, James and John give to SS. Paul and Barnabas the right hand of fellowship.
2. SS. Peter and John confirming at Samaria.

VII.

(*Legendary scenes from the life of S. John.*)

1. S. John ante Portam Latinam.
2. Reclaiming the Robber.
3. The poisoned Chalice.
4. The aged S. John at Ephesus.

The quire, from the screen to the 'sacrarium,' is paved with Purbeck and Sicilian marble and encaustic tiles. The six steps leading up to the altar are of Devonshire marble. The space between the first and second steps is paved with Purbeck, Sicilian, and black Derbyshire marbles, with a border of encaustic tiles. The space between the second and third steps is elaborately decorated with a series of subjects in inlaid work. The figures are of white marble, on a ground of black Devonshire marble. Each subject is so arranged as to form a square, set lozenge-wise, round which an inscription runs; and encaustic tiles, of the same colour and pattern as those used in other parts of the Chapel, form borders round the subjects, and, intermixed with marbles of other colours, a general groundwork to the whole composition. In the central portion of the pavement the above-mentioned subjects are set in two rows, five in each row; and round the outer edge, in the small triangular spaces which intervene between the squares, are the signs of the zodiac, also in white marble on a black ground. The subjects are as follows, counted from left to right:

UPPER ROW.

1. Abel watching his burnt offering.
2. King Solomon.
3. Melchizedek blessing Abraham.
4. King David.
5. Sacrifice of Isaac.

LOWER ROW.

1. Moses.
2. The Burning Bush.
3. Zechariah.
4. The Manna in the Wilderness.
5. Malachi.

Of the 98 stalls, 22 on each side, counting from the east, came from the old Chapel. The others were designed by Sir G. G. Scott. The brass lectern was given in 1840 by Rev. Tho. Whytehead, M.A., Fellow.

On leaving the Chapel walk along the west side of the First Court to the passage leading through the Screens. Note over the door the statue of the Lady Margaret, 1674.

Pass through the Screens into the SECOND COURT. This beautiful specimen of Elizabethan brickwork was built 1598–1602, chiefly at the expense of Mary Cavendish, Countess of Shrewsbury. The architect was Ralph Symons, who had been already employed to build Emmanuel College (p. 105), and to alter Trinity College (p. 33).

Return to the Screens, and first enter (*right*) the KITCHEN, to note the memorial inscription to the poet Wordsworth in the upper window on the left in the south wall. He has himself said of the rooms which he occupied while an undergraduate (1787–91) in *The Prelude:*

> The Evangelist Saint John my patron was:
> Three Gothic courts are his, and in the first
> Was my abiding-place, a nook obscure.
> Right underneath the college kitchens made
> A humming sound, less tuneable than bees,
> But hardly less industrious; with shrill notes
> Of sharp command and scolding intermixed.

The rooms in question were described by one who visited them with Wordsworth in 1839 as "mean and dismal," but he said that he had been "as joyous as a lark" in them. For some years previous to 1893 they had been used as a store-room, and in that year were added to the kitchen, to gain additional height. A recollection of the poet is maintained by the words "William Wordsworth, 1787–91. My abiding-place a nook obscure. *The Prelude,*" introduced into the glass of the window.

On entering the HALL note the early "linen" panels on the screen, and the somewhat later panels of the same character on the walls. The open roof is original.

The Hall was extended forty feet towards the north, and a second oriel built, 1863–65. Note the lofty screen at the back of the dais, removed from the old Hall.

Among the portraits in the Hall note the following:

Against the Screen. Tho. Baker, B.D. Historian of the College, d. 1740.

Left. Hen. Martyn, B.D., d. 1812: T. Hickey (copy).
Edw. Hen. Palmer, M.A., d. 1882: Hon. J. Collier.
William Wordsworth, B.A., d. 1850: H.W. Pickersgill.
Benj. Hall Kennedy, D D, d. 1889: Ouless, 1885.
Jas. Jos. Sylvester, M.A., d. 1897: A. E. Emslie.
John E. B. Mayor, M.A., d. 1910: H. Herkomer.
Rob F. Scott, Master: Fiddes Watt.
Prof. A. Marshall: Rothenstein.
Matthew Prior, d. 1721: Rigaud.
Dr G. D. Liveing: Sir G. Reid.
Sir Noah Thomas, d. 1792: Romney.

Right. Ch. Cardale Babington, M.A., d. 1895: Wm. Vizard.
Rev. Pet. Hamnett Mason, M.A. (President 1882—1902).
Ja. Wood, D.D. (Master 1815—39).
Prof. E. C. Clark: de Lazlo.
S. Butler, author of *Erewhon*: by himself.

Above High Table. John Fisher, D.D., d. 1535.
The Foundress.
Sir Ralph Hare, d. 1623: Mark Garrard.
John Williams, D D., Bp of Lincoln 1621—41; Abp of York 1611—44.
Sarah Duchess of Somerset, d. 1692.

Leave the Hall by the door on the left near the high table, and ascend the staircase (built 1863) to the GALLERY, now used as a COMBINATION ROOM for the Fellows. It was built originally as part of the Second Court for the use of the Master. In the sixteenth and seventeenth centuries a Gallery formed part of every important dwelling-house. In Colleges the Master represented the Lord of the Castle or Manor-house, and his lodging, like the "withdrawing room" of the former, was usually entered from the dais of the hall, and had a similar arrangement of rooms. At Trinity, Christ's, and Queens', he had even a small window opening from his chamber into the hall, so that he could both see and hear what was passing there. In Cambridge the gallery is usually described as "the Master's walking-place" (*ambulatorium magistri*), and may perhaps have been intended in the first instance for exercise in bad weather.

This gallery, with its panelled walls and ceiling of rich plaster-work, is one of the finest specimens of this class of building left in England. It was originally 148 feet long, but has now been reduced to 93 feet.

Among the portraits note the following:

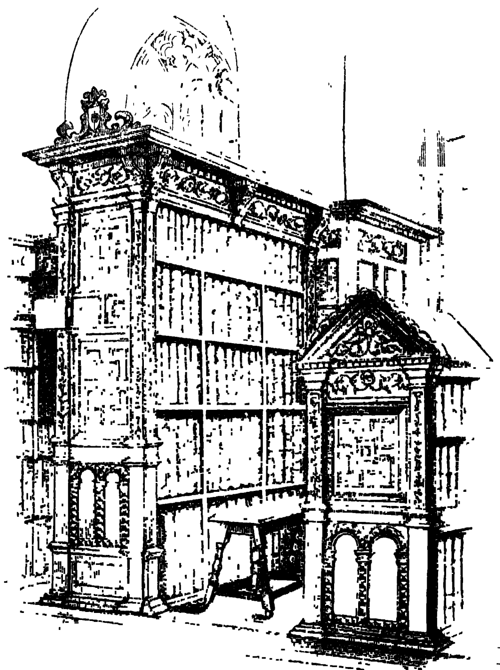
Study of the Head of William Wordsworth: Pickersgill.
Bishop Tyrrell of N.S.W., d. 1879: Crayon portrait by G. Richmond, R.A.
Prof. William Selwyn, d. 1875: Crayon portrait by G. Richmond, R.A.
Geo. Augustus Selwyn, D.D., d. 1878: G. Richmond, 1854.
Sir John Fre. Wm. Herschel, d. 1871: H. W. Pickersgill.
The Foundress.
John Couch Adams, d. 1892: T. Mogford.
Wm. Wilberforce, d. 1833: G. Richmond, 1834.
Tho. Clarkson, d. 1846: H. Room, 1838.
Sam. Parr, d. 1826: G. Dawe.



GALLERY OF S. JOHN'S COLLEGE.

Walk through the gallery to the LIBRARY, built 1623–28, chiefly at the cost of John Williams, D.D., then Bp of Lincoln and Lord Keeper. He is commemorated on the picturesque gable towards the river, by the letters I. L. C. S., for *Johannes Lincolniensis Custos Sigilli.* The building is an interesting specimen of Jacobean Gothic, and the bookcases, put up at the same time, are not only beautiful in themselves, but of great value in the history of library-fittings. Note that they are no longer detached from the side-walls, as in the older examples, but that their cornice is continuous with

that of the panelwork which lines the walls and window-jambs. Lower detached cases, in the same style and of the same date as the others, stand in front of each window. Note the two



BOOKCASES IN THE LIBRARY OF S. JOHN'S COLLEGE.

of these nearest to the door, which are of the original height, with a sloping desk at the top on which books could be laid for study. The others have all been raised, to give more room for books; and, for the same reason, the taller cases have all been altered. The plinths, now visible at the ends

only, originally ran round the sides, as did the broad band of wood-work above the arches; and there was a rich pilaster in the middle of each, below the central bracket.



S. JOHN'S COLLEGE *gateway in centre of west range of Third Court.*

Descend the staircase (finished 1628), a rich and characteristic specimen of the style then in fashion, and walk along

the Second Court to the entrance leading westwards into the Third Court. Note, over the gateway, the statue of the Countess of Shrewsbury, by Burman, 1671.

The buildings on the south and west sides of the THIRD COURT were built 1669—73. Note the date, 1671, on the west gable (towards the river) and on one of the spouts at the S.W. angle of the court. Thomas Baker the antiquary, d. 1740, occupied the westernmost set of rooms on the first-floor in the first staircase on the south side. Note the greater width of the arch of the west cloister opposite to the gate of entrance from the Second Court, and the treatment of the building above it so as to form a gateway front, ornamented with shields, roses, and portcullises, and crowned by a circular pediment. This gateway was constructed for the use to which it is now put, namely, as the approach to a bridge.

On the last pier of the arcade, on the South side, are two inscriptions: "Flood, Oct. 27, 1762"; "Flood, Feb. 10, 1795."

The old bridge is built from designs by Sir Christopher Wren and his pupil Nicholas Hawksmoor.

Note the south side of the Library, with pointed windows of two lights, and then pass through the western archway and over the Bridge into the NEW COURT, built from the designs of Messrs Rickman and Hutchinson, 1826–30. The bridge, commonly called "The Bridge of Sighs," was designed by Mr Hutchinson. The view, both up and down the river is very beautiful.

Walk down the cloister of the New Court, and turn left into the walks. If you have time, turn to the right along the broad gravel walk, and, crossing the brook which traverses the grounds, walk past the WILDERNESS; the gate at the end of the walk out of which the entrance to the Wilderness opens is called the Field-gate, and leads into the high road.

Returning from the Wilderness choose the walk by the side of the stream separating S. John's College from Trinity College, called Bachelors' Walk, and then walk along the river to the OLD BRIDGE, built 1696–1712. Before reaching it there is a charming view of the building of 1671, with the bridge and its picturesque piers in the foreground.

Cross the bridge, and pass under the south gable of the building next the river. Before reaching the gateway (built 1712), each of the piers of which bears a stone eagle, is a passage leading into the Third Court. Pass through this

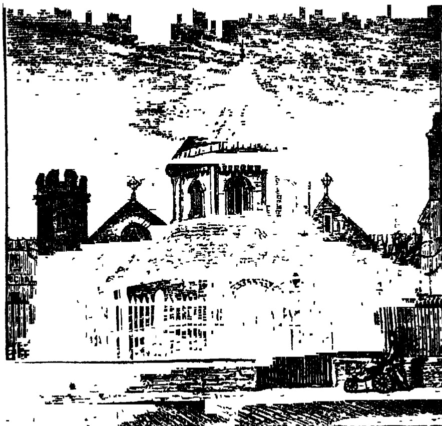
and thence through the Second and First Courts into S. John's Street.

Turn to the left, and passing the apse of the new Chapel of S. John's College, you see before you, opposite the junction of S. John's Street with Bridge Street, the

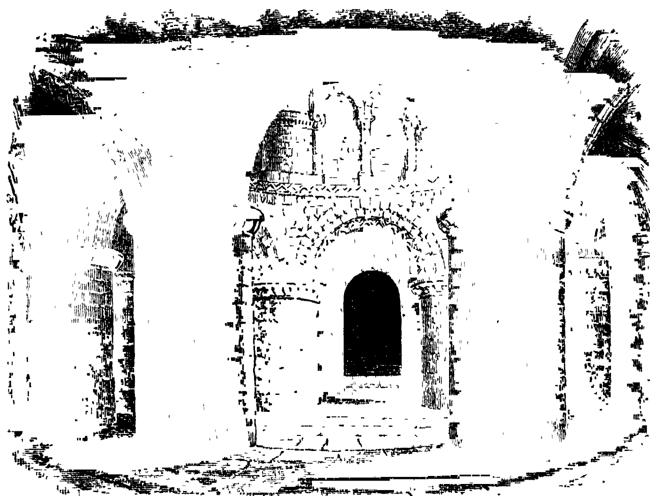
CHURCH OF THE HOLY SEPULCHRE,

commonly called the Round Church, one of the four round churches in England. To judge by the style of the architecture it was built between 1120 and 1140. In its original form the church consisted of the present nave with its ambulatory (see plan p. 64), and, probably, a semicircular apse on part of the site of the modern chancel. There is ground for believing, on evidence discovered in 1841, that in the thirteenth century this apse was replaced by a chancel in the Early English style; and we know, from actual remains that existed down to 1841, that this later chancel had been replaced in the fifteenth century by one in the style of that period, presumably larger. When this change was carried out a wide four-centered arch was made between the chancel and the nave (plan *b*, *e*), with a window on each side of it (ibid. *a*, *f*); and there were doorways in the same style in the north and south walls (ibid. *k*, *l*). The north aisle was probably built at the same time, for its roof is of the 15th century. The nave was altered to suit the new chancel by raising the wall of the clerestory so as to get room for a belfry above the Norman corbel-table, which was fortunately preserved. This new stage was polygonal, with a slender buttress at each angle, and a window of two lights on each face. In the lower stage, the Norman windows, with a single exception, were altered into windows of three lights; a process repeated in those of the ambulatory below.

In 1841 a "thorough restoration," which aimed at putting back the architecture of the church to the Norman period, did much mischief in obliterating ancient work, and constructing modern additions for which there was no authority. The chancel was rebuilt except the east wall (coloured black on plan), with a new arch (ibid. *c*, *d*) into the nave, narrower than the old one, and a pierced stone screen above it; the north aisle was rebuilt and extended eastwards so as to make

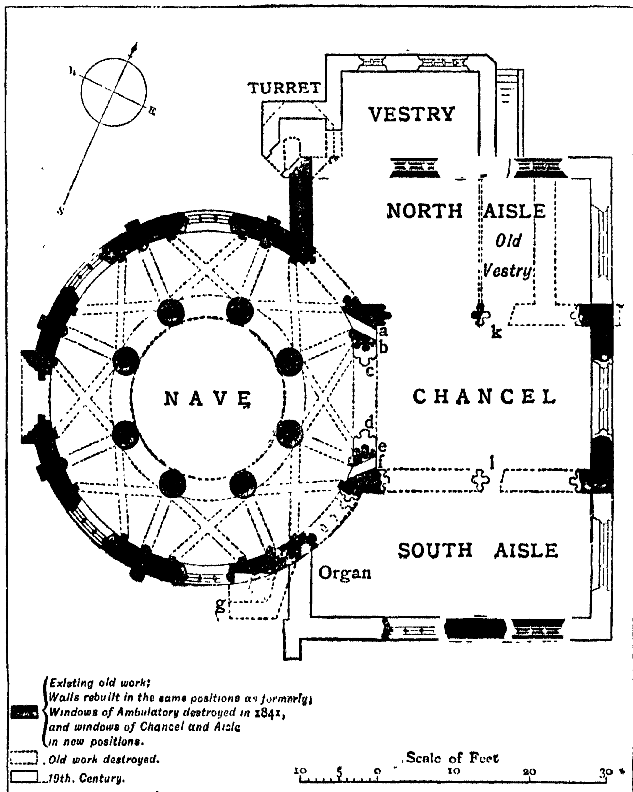


CHURCH OF THE HOLY SEPULCHRE.



CHURCH OF THE HOLY SEPULCHRE · INTERIOR OF THE NAVE.

it of equal length with the chancel; and a new south aisle was added. In the nave the belfry was pulled down (perhaps



GROUND PLAN OF CHURCH OF THE HOLY SEPULCHRE:
measured and drawn by T. D. Atkinson, Architect.

wisely) and replaced by a conical roof. The fifteenth century windows were all removed, and Norman windows inserted, copied from the single old one which had survived. The ambulatory received similar treatment both in roof and windows; and the west doorway, of a bold Norman design, was restored so drastically that not a single old stone is left.

Behind S. Sepulchre's Church are the buildings of the

CAMBRIDGE UNION SOCIETY,

erected from the designs of Alf. Waterhouse, architect, 1866, and increased in 1882 and 1884. The objects of the Society are the promotion of debates, the maintenance of a library, and the supply of newspapers and other periodicals.

Turn to the right down Bridge Street, in which, from this point as far as the Castle, a good many remnants of ancient house-architecture may still be seen. On the right is the

CHURCH OF S. CLEMENT,

a small and not particularly interesting building. It consists of nave, north and south aisles, chancel, vestry on north side of chancel, and west tower. The nave may be assigned to the end of the twelfth or beginning of the thirteenth century. The two arcades are not quite alike, but are probably of the same date. The font is of the fifteenth century. Note the richly moulded south door, which is of good Early English work, much earlier than the rest of the aisle, and may have been brought from elsewhere. The chancel, of brick, is said to have been built in or about 1726.

The tower and spire were erected in 1821 with a legacy from the Rev. Wm. Cole, M.A., the well-known antiquary, d. 1782. He is commemorated by the motto *Deum Cole*, carved on the west face of the tower.

Across the road from S. Clement's Church there is a fine carved oak mantelpiece, with inlaid pictorial panels, at No. 3, Sussum's Yard. It is dated 1594, and was probably erected by one of the Vinter family. (See p. xxv.)

Passing on the left the entrance to the Master's Lodge of S. John's College, built 1863, we come to

THE GREAT BRIDGE,

an iron structure, built 1823, to replace one of stone built by James Essex 1754. Up to that date the bridge had been of

wood. Looking left, towards S. John's College, note the small wharf on the right, called Fisher Lane, bordered by picturesque houses and gardens. It is the last of the numerous hithes which lined the banks of the river in the Middle Ages, and derived their names either from the goods landed at them, or from their owners, as Corn Hithe, Flax Hithe, Salt Hithe, Dame Nichol's Hithe, etc. From the opposite side of the bridge note the river-front of Magdalene College, restored in 1873 by F. C. Penrose, architect. We will next visit

Magdalene College,

founded by Thomas Lord Audley, 1542, to replace Buckingham College, the site of which had been granted by Henry VI., 1428, to the English Benedictines, as a Hostel for Monks of their Order.

Note the front of the College, as restored (after Loggan's print, 1688) by Mr Penrose, 1875. The entrance gateway, of the Renaissance, was probably built by Sir Christopher Wray, 1585.



ARMS OF MAGDALENE COLLEGE.

On entering the court note that the Library and Chapel are on the north side (*left*). Between them is a passage to the Master's garden and Lodge. The east side of the court is occupied by the Hall and Kitchen, over which is the Combination Room. It is recorded that in the days of Buckingham College the chambers were built at the cost of different Houses of the Benedictine Order; and so late as 1777 the arms of the Monastery of Ely were to be seen over a doorway at the north-west corner of the court. The similar Benedictine house at Oxford, Gloucester College, now Worcester College, was built in the same way. Subsequent changes have made it impossible to identify the component parts of this College.

The Chapel is, in part at least, that of Buckingham College. It was thoroughly restored between 1847 and 1851, when it was lengthened, and the windows filled with glass by Hardman.

The Hall was built for Buckingham College by Edward Stafford, Duke of Buckingham, in 1519, but it has been much altered since. It was wainscotted 1585, but the present

wainscotting dates from 1714. The pilasters over the high table, with Ionic capitals, bearing bunches of fruit and flowers, are fragments of the earlier work. Note the picturesque staircases at the south end of the Hall leading to the COMBINATION ROOM. They were built 1714 from the design, it is believed, of Sir John Vanbrugh.

Among the portraits note the following:

Left. Charles Kingsley, d. 1875: by Lowes Dickinson.

Right. Samuel Pepys, as a young man: by Sir Peter Lely.

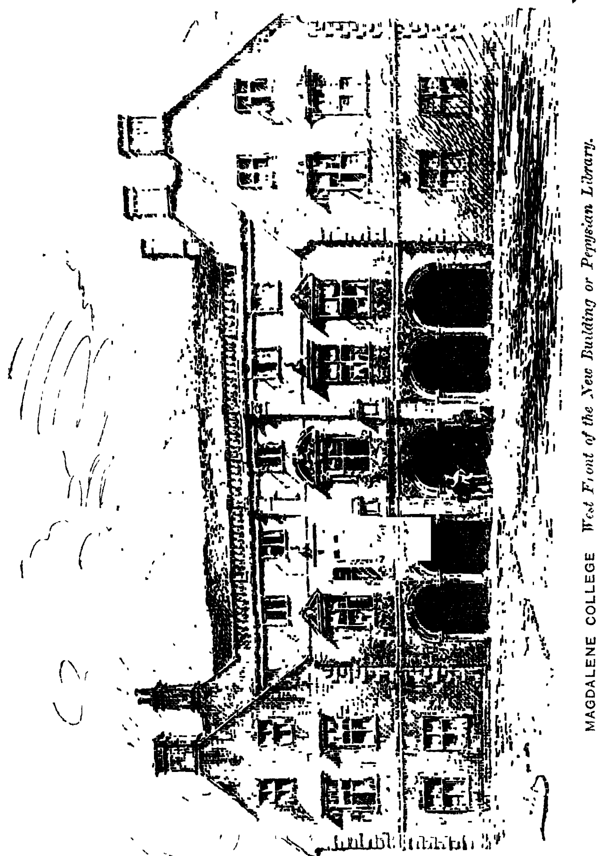
Turn to the left on leaving the Hall, and entering the SECOND COURT, pay particular attention to the beautiful building it contains.

This range of chambers, commonly called the PEPYSIAN LIBRARY, is a valuable example of the architecture of the seventeenth century, and it is greatly to be regretted that neither the name of the architect nor the exact date of the design should be known.

It is said to have been projected during the mastership of Dr Hen. Smyth (1626–42) because the College could not "lodge with conveniency all students and members thereof", begun in that of Dr John Peachel (1679–90); and finished in that of his successor Dr Gabriel Quadring (1690–1713). Mr Pepys gave, in various instalments, a sum of £60 towards building it. It must have been nearly finished by 1703, when Pepys bequeathed his library to the College, to be placed in a room "in the New Building." His books arrived in 1724, when the arms of Pepys in the pediment of the central window, his motto MENS CUJUSQUE IS EST QUISQUE, and the inscription BIBLIOTHECA PEPYSIANA, 1724, were added. His books were first placed in a large room on the first-floor, lighted by five windows; but, after several migrations, they now occupy a fireproof room at the back of the south wing. The twelve bookcases, of red oak, wherein Pepys had arranged his treasures in his own house, are still in use.

If possible visit the back of the building, which has the appearance of a gentleman's house. Two projecting wings enclose a small court, with square towers for staircases at the junction of the centre and the wings. These wings are curiously irregular. The south wing is rather shorter than the north wing, and is more inclined towards the central

part. On the west side these wings project beyond the central wall only seven inches on the ground and four inches



MAGDALENE COLLEGE *West Front of the New Building or Pepysian Library.*

on the first-floor. Here again the construction is irregular.

The middle window is not in the centre of the façade, and the space between the second and third windows counting from the north is greater than the corresponding space between the seventh and eighth windows. The carved enrichments are subsequent additions to give greater dignity to a building originally designed to contain only ordinary chambers. Loggan (1688) shews it without them.

The MASTER'S LODGE, built 1835, stands in a garden at the north-west corner of the site.

The terrace on the north side of the Fellows' Garden, by the side of the road leading to Chesterton, is believed to rest on part of the outworks of the Castle.

The new buildings—Bright's Buildings—were erected in 1908–9. They are the outcome of a bequest in 1883 of £5000 by the Rev. Mynors Bright, for many years Tutor and President of the College. They occupy a site between the second court and the river, on land purchased for the College in 1797 by Peter Peckard, Master. The architects were Sir Aston Webb C.B., R.A. and Mr Ingress Bell. The plan of the buildings is L shaped, the shorter arm, of one storey, consisting of a new kitchen, scullery and offices, abutting on the S.E. corner of the first court, while the larger arm with a frontage of 70 feet and depth of 30 feet is of three storeys, and contains a large Lecture Room, two sets of Fellows' Rooms and nine sets for undergraduates. The buildings stand on a raft of concrete 3 feet thick; they are built of local bricks with a facing of small Dutch bricks of purplish-brown hue with wide mortar joints to harmonize with the adjoining south front. The dressings are of Weldon and Ancaster stone. There is little attempt at decoration and no architectural display; the style is unpretentious, but the general effect as seen from the bridge is impressive, the new buildings adding greatly to the dignity of the College.

On leaving Magdalene College, before proceeding to the right up the street, note the picturesque old house opposite, with two overhanging floors, and brackets carved with grotesque figures. It was until recently an inn, called *The Cross Keys.* The yard should be entered for the sake of the view of the rest of the house, which has been but little altered, and gives a good idea of a medieval hostelry. It contains some quaint carving.

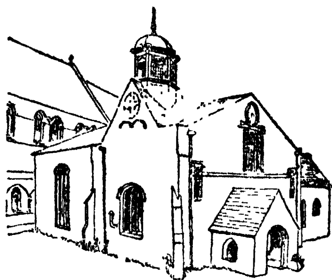
At the corner of Magdalene Street and Chesterton Road is the

CHURCH OF S. GILES,

built 1875 to replace a small ancient church which modern additions had transformed into a strange and most unsightly structure (see woodcut).

It consisted originally of a small nave and chancel. The chancel-arch (preserved in the south aisle of the new church) is of Norman, or late pre-Norman work, and may be dated 1050 or 1075. The south doorway (preserved in the passage leading to the vestry from the door on the north side of the chancel in the new church) was probably built a century later. It has a sharply pointed arch, charged with chevrons; its jamb once contained three detached shafts on each side with carved capitals; and the arch was surmounted by a gable. Over the doorway was a small niche for a statue.

The old church retained its original plan, and probably to a great extent its early appearance, till about the beginning of the nineteenth century, when the Rev. William Farish, M.A., Jacksonian Professor 1813–37, and Vicar of the parish 1800–37, pulled down the north wall of the nave, and built a room of white brick large enough to accommodate an extensive congregation. Farish was renowned for his mechanical contrivances, and in order to facilitate his ministrations devised a pulpit and sounding-board of such an ingenious construction that not only could he be heard himself in all parts of the building, but the slightest whisper uttered by any member of his flock could be carried back to his ears.



PARISH CHURCH OF S. GILES.
S. W. view of old church.

The new church is a large and convenient structure of white brick, and needs no further description. Besides the

two fragments above mentioned it contains a fifteenth century font brought from the old church, and some monumental tablets.

There was once another parish in this part of Cambridge, called ALL SAINTS BY THE CASTLE. It was united with that of S. Giles in 1361 because the parishioners were for the most part dead in the pestilence, the nave of the church was ruinous, and the bones of the dead exposed to wild beasts.

On the left, nearly opposite S. Giles's Church, is the church of S. PETER, sometimes called

S. PETER'S BY THE CASTLE.

(The key is kept at 94a Castle Street.)

This church had become ruinous at the end of the 18th century, and was rebuilt on its present scale in 1781, with the exception of the tower and spire. The south door also is, at least in part, of old work. Note the font, with grotesque sculptures at each angle. It stands on an absurd made-up pedestal.

Further up the street, on the right, is the SHIRE-HALL, completed 1842. This marks the site of THE CASTLE, whose spacious and massive gatehouse was removed to make way for the new building. Behind the Shire-hall is the GAOL, built 1802.

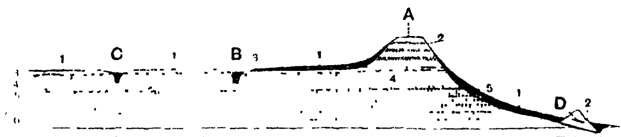
Opposite the Shire Hall is the Old Three Tuns Inn, dating back to the sixteenth century, and apart from its quaint architecture it is noteworthy because of its associations with Dick Turpin, who used to sleep there on his visits to Cambridge.

THE CASTLE HILL,

approached through a gate just before you come to the Shire-hall, should on no account be missed. It is a lofty conical mound commanding an extensive view over Cambridge and its neighbourhood. Recent investigation has proved it to be artificial. The Castle and all the earthworks immediately about it were constructed on a natural promontory which forms the end of a terrace abutting on the river at its bend near Magdalene College. This promontory (see annexed section) is composed as follows, beginning with the lowest stratum: the gault, a stiff impervious clay, here about 125 feet thick (No. 6); the basement-bed of the chalk with phosphate nodules (No. 5); a solid mass of chalk marl (No. 4);

an irregular bed of sand and gravel (No. 3); a still more irregular layer of made earth (No. 2).

The mound itself, on the other hand, is composed of earth, gravel, and large quantities of chalk. Chalk cannot in this district occur naturally above gravel, and therefore, whatever the origin of the mound may be, it must be artificial. The occurrence of chalk in it is easily explained on the supposition that the end of the promontory (along the line CD in the section) was cut away to form a steeper scarp, the material thrown on to the top, and then pounded down to form a compact mound.



SECTION N.E. AND S.W. THROUGH THE CASTLE HILL. *Length of section 380 yards. Prepared by Professor T. McKenny Hughes.*

1. Talus and later made earth.
2. Earlier made earth of mound and rampart.
3. Pleistocene gravel.
4. Chalk.
5. Phosphate bed at base of chalk.
6. Gault.

A. The mound.
B. First fosse of Burh.
C. Second fosse of Burh.
D. Bank in Magdalene College grounds.

With what object, then, was the mound raised? It is not sepulchral, because (1) had it been so it would have been composed of materials obtained close at hand, and not, as is the case, from a distance; (2) because careful search has found no remains, or traces of remains, in it. It is evidently a mound of defence, a Burh, such as were raised in the ninth and tenth centuries as the substructure of wooden forts, or the residences of chiefs.

There is ample proof that the Romans occupied the high ground in this part of Cambridge, as they occupied many spots in the neighbourhood, but there is no trace of a Roman

camp or fortification of any kind. The identification of the spot with the Camboritum of the Itineraries, adopted with unanimity by the antiquaries of the last century, rests on no solid foundation of fact. It is most probable that the position was first fortified in those troublous times when the earlier invaders who had conquered the Romanised British were in their turn attacked by new-comers from the Continent; but at what precise date or by whom the Burh was constructed there is not at present any evidence to shew. Until the year 1802 a hollow crossed the promontory between the mound and the prison, marking in all probability the fosse which protected the mound on that, the otherwise most accessible, side.

William the Conqueror built a castle here in 1068, having pulled down 27 houses to make room for it. In succeeding reigns this castle was repaired, or strengthened, or granted to a favourite, and sometimes the king lodged in it; but it was never an important fortress, and seems to have been used chiefly as a prison. In the 15th century part of it was falling into decay, for in 1441 King Henry the Sixth granted to his scholars "the old hall and a chamber next to it in the castle, then in a state of ruin and wholly unroofed," by way of assistance in building. In 1642 the fortifications were strengthened by Cromwell, but, whatever was done then was abandoned by order of the two Houses in 1647.

It is worth while to trace the probable original extent of the Castle. As you stand on the mound and look towards the north-east you see the line of fosse and rampart extending in a north-westerly direction. On the south, beyond the road leading to Chesterton, is the terrace in Magdalene College grounds (mentioned above p. 69), which marks the southern limit. Return to Castle Street and walk up it to the road turning left opposite *The Wheatsheaf* inn. The garden at the corner, occupied by Mr Hall, florist, was probably the site of the Church of All Saints by the Castle. Turn to the left, and you will see that along Pleasant Row, Mount Pleasant, and Honey Hill, the ground has evidently been scarped artificially. These rows of houses mark the south-west limit of the Castle. The southern border is indicated roughly by Northampton Street and Chesterton Lane, to the right of which is the terrace in Magdalene College garden, previously noted from above. This terrace was proved by the excavations

in 1910 to bear indications of the Roman age. The other escarpments are probably Norman, but they may have been strengthened in parts by Cromwell. The one certain fact about them is that they are not Roman.

Turn to the right, and you will presently see on the left a door marked Merton Hall. Here is the ancient building ridiculously named SCHOOL OF PYTHAGORAS. It dates from the latter part of the twelfth century, and was probably the country house of a Norman gentleman. The original house consisted of a single range of building in two floors, the lower vaulted and used as cellars and offices, the upper being presumably the hall and chambers.

At the corner of the road leading to Madingley stands the "Westminster Theological College of the Presbyterian Church of England," intended for postgraduate study of theology.

Skirting the north-west side of the College and turning to the left to Mount Pleasant we approach S. Edmund's House, founded in 1896 by the Duke of Norfolk for Roman Catholic students in orders or proceeding to orders. It was originally opened by the Rev. W. Ayerst, M.A., Caius Coll., in 1884, as a private hostel, and was closed in 1896.

From this point it will be convenient to return to the Madingley Road in order to visit

THE OBSERVATORY,

distant about three-quarters of a mile, on the right of the road. It was completed in 1824.

The principal instrument in the interior of the main building is the Transit Circle, mounted in 1870 during the directorship of Professor Adams. The object-glass, of aperture 8 inches and focal length 9 feet, was made by Cooke and Sons, the mounting by Troughton and Simms. The observations from which the catalogue of stars in the zone lying between 25° and 30° North Declination was prepared were made with this instrument.

In the grounds south-west of the main building is the NORTHUMBERLAND EQUATORIAL, given by the Duke of Northumberland, then High Steward of the University, in 1835. The object-glass, by M. Cauchoix, is 11¼ inches effective aperture, with a focal length of 19½ feet. The mounting which is of the English pattern, was designed by Geo. Biddell Airy, M.A., then Plumian Professor.

In an adjoining building a telescope specially adapted to photographic work and known as the Sheepshanks instrument was erected in 1899, during the directorship of Sir Robert Ball. The object-glass, consisting of 3 lenses, 12½ inches aperture and 19½ feet in focal length, by Cooke and Sons, is achromatised as well for the photographic as for the visual rays. The mounting is of new design, by Sir Howard Grubb. The tube

is not straight, but consists of two parts connected by an elbow joint, at which a plane mirror is placed to reflect the light from the object-glass to the eye-piece. The eye-piece end of the tube points downwards in a direction constantly parallel to the Earth's axis, and is made the polar axis, about which the whole instrument revolves as an equatorial by an electrically controlled driving clock. The other part of the tube carries the object-glass, and can be inclined at any angle to the polar axis. The observer can thus see any celestial object through the instrument without changing his position.

The Solar Physics Observatory

combines the former Astrophysical Department of the University Observatory and the Solar Physics Observatory, formerly at South Kensington, which was entrusted to the charge of Cambridge University in 1913.

The following are the principal instruments:

1. The Newall telescope (aperture 25 inches) in the large dome, which is devoted to spectrographic work, particularly to the determination of the velocity of stars in the line of sight. It was presented to the University in 1890 by Mr R. S. Newall, F.R.S., of Gateshead-on-Tyne, having been erected in his private observatory about 1870.

2. The McClean solar instruments, comprising a double cœlostat with mirrors 16 inches in diameter, an object-glass having an aperture of 12 inches and a focal length of about 60 feet, and a spectrograph of the Littrow form. They were provided out of the bequest of Mr Frank McClean, F.R.S., and erected in buildings adjoining the Newall dome.

3. The Huggins telescopes, which had been placed at the disposal of Sir William Huggins for many years by the Royal Society and were presented in 1908 to the University by the Society, and erected in a dome adjoining the astrophysical building.

4. A concave grating, mounted, after Rowland's method, in the laboratory, which was built in 1913 on the transference of the Solar Physics Observatory from South Kensington to Cambridge.

5. A spectroheliograph for the study of solar phenomena in monochromatic light; erected in buildings to the south of the astrophysical building.

6. A 36-inch reflector with a mirror (silver on glass) worked by Dr Common; mounted equatorially in a dome to the south of the Newall dome.

The laboratory contains spectroscopic, photometric, and other apparatus for experimental research: and also many photographic records of the spectra of both terrestrial and celestial sources of light.

From the corner of the Madingley Road walk along the road commonly referred to as "the backs of the colleges." The whole ground on this part of the left bank of the river Cam was anciently a common called Carmefield or West Field.

The greater part of it has been absorbed by the different colleges. You come first to the gate leading into the walks of S. John's College, with two handsome stone piers surmounted by eagles; then, skirting the "Wilderness" of the same College, to the open space at the end of Trinity College Avenue. Next is Garret Hostel Lane, which crosses the river by an iron bridge, and separates Trinity College from Trinity Hall. Beyond this lane you enter the open space called Clare Hall Piece, on the east side of which is the gate leading to the avenue of Clare Hall. Next is the corresponding entrance to King's College, beyond which, along the side of the stream separating the College from the Common beyond, is a row of elms planted in 1685, and called ERASMUS'S WALK. From this point you can either cross the Common behind Queens' College, and so over the Small Bridge and along Silver Street to Trumpington Street; or through the grounds of King's College to King's Parade, and Great S. Mary's Church, whence we started.

It would be convenient, while at this end of Cambridge, to visit (distant about 2 miles along the Huntingdon Road)

GIRTON COLLEGE.

Opened 16 October, 1869, in a hired house at Hitchin, and moved to Girton, 1873. It is designed to hold, in relation to girls' schools and home-teaching, a position analogous to that occupied by the Universities towards Public Schools for boys. Students of the College are admitted to the University Tripos Examinations on fulfilling the prescribed conditions in regard to residence and preliminary examinations.

The first portion of the existing buildings was occupied in October, 1873. Since that date additions have been made from time to time to meet the wants of an increasing number of students. The buildings (designed by Mr Waterhouse) now contain rooms for the Mistress, Vice-Mistress, Resident Lecturers, Librarian, Junior Bursar, and 150 students, with Lecture-Rooms, Library, Chapel, Reading Room, Hall, Chemical Laboratory, Swimming-bath, and other accommodation. In the dining hall are portraits of Miss Emily Davies (by Lehmann) and Madame Bodichon (by Miss E. Osborne), two of the founders of the College, and a copy of Richmond's portrait of the Dowager Lady Stanley of Alderley, one of its earliest benefactors. In the Library are copies of the works of

Tennyson and Ruskin, presented by the authors, with their autographs, and a portfolio of original water-colour drawings by Kate Greenaway, presented by Ruskin. Mrs Somerville's mathematical library was presented by her daughters: and the gold medal given in 1828 to Miss Caroline Herschel by the London Astronomical Society was a gift from her great niece, Lady Hamilton Gordon.

The College grounds consist of 33 acres, and the buildings face the old Roman road, the Via Devana. In 1882 excavations made with a view to draining the future lawn (now tennis courts) revealed traces of Roman and Anglo-Saxon burying grounds, a large number of urns and other remains being found, some of which may be seen in the College. Further discoveries were made in 1886, and in 1900 a skeleton and some cinerary urns were found under the front drive.

Visitors are admitted on application to the Portress.

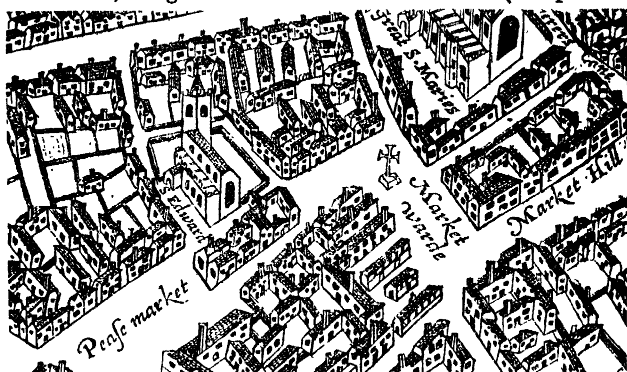
SECOND WALK.

We will suppose the visitor to start as before from Great S. Mary's Church, and, standing with his back to the Chancel of the church, to survey

THE MARKET-PLACE.

The old Market-place (see plan, dated 1592) was very unlike the modern one. It was an L-shaped area; the long arm of which was bounded by the east side of the present market (that facing you). This arm, lettered *Market-Hill* on the plan, was not more than 25 feet wide at its narrowest part. Its west side was formed by a block of houses, beyond which again was a narrow lane called Smith's Row, and a number of small houses and shops, along the edge of Great S. Mary's Churchyard, some of which abutted on the chancel. The shorter arm of the L, lettered *Market warde* on the plan, had the Market Cross at the west end, and the Conduit, built 1614, at the east end. This market, though small, was well arranged, and different portions were regularly allotted to different wares. Corn was sold at the north end, near the modern Market Street, formerly Shoemaker Row or Cordwainer Street; next to this came poultry and butter (in the form of long thin rolls sold at so much per yard); and meat at the south end. The garden-market was between the Conduit and the cross; and the milk-market between the cross and

S. Mary's Passage. In medieval times, before Hamond's plan was drawn, the ground on which the SHIRE-HALL (now part of



THE MARKET-PLACE: *from Hamond's plan of Cambridge*, 1592.

the Guildhall) stands, was not built over, but occupied partly by shambles, partly by open stalls. Lastly, there was a second market-place, much smaller and less important, to the south-west of the former, called Pease Market, or latterly Pease Hill. Fish was sold there in ancient times, as now.

In 1849 an accidental fire destroyed eight houses between Great S. Mary's Church and Market Hill. Thereupon the Corporation obtained an Act authorising them to acquire all the property between the west side of the market and the church. The present arrangement was completed in 1855; when the new Conduit was built.

At the north end of the Market-place (*left*) is Rose Crescent. The houses on each side of the entrance to it mark the site of *The Rose and Crown* Inn. A small house down Messrs Macintosh's yard has some fine carving round the panelled room on the lower floor and the mantel-piece, though now covered with a thick coat of green paint, is well worth inspection. The house was originally part of the old *Angel* Inn. Permission to view can generally be obtained from Messrs Macintosh. At the opposite end of the Market-place is the SHIRE-HALL, built 1747, and made over to the Town 1842, when the new Shire-Hall was built at Castle End (p. 71). It is now part of the Guildhall.

THE GUILDHALL.

This building has always occupied the site, or part of the site, on which it now stands; but it must be remembered that up to 1747 the ground in front of it was open, or nearly so, as explained above. The wing of the Guildhall immediately behind the Shire-Hall, with a frontage to the passage still called Butter Row, was built by Essex, 1782, to replace an older building dated 1386. The new Guildhall was begun 1859, when the large Assembly Room was built. The wing in Guildhall Street was added 1895 after a design by W. M. Fawcett, M.A., architect.



SEAL OF THE TOWN OF CAMBRIDGE.

Walk down Guildhall Street (*left* as you face the Town Hall) and you will presently see (*left*, at the corner of what used to be called Slaughter House Lane) the CORN EXCHANGE, built 1875. Opposite to this is the FREE LIBRARY, under the Guildhall, occupied 1862. The entrance from this street, a stone porch in a classical style, is dated 1885. The Library, originally opened in Jesus Lane, in June 1853, contains, with the Branch Library in Mill Road, about 60,000 volumes. There are many volumes of local interest and a Shakespeare collection. A reference room was added in 1916. A fireplace which belonged to the Veysy family has been re-erected in the Librarian's room.

A few steps further bring you to Pease Hill before mentioned. On the left, where Barclay's Bank now stands, was the Gate-House of the Augustinian Friary, pulled down 1720. Cross the Hill to the

CHURCH OF S. EDWARD,

rebuilt at the end of the 14th century, with the exception of the tower, of which the lower part at least is Early English.

In or shortly after 1445, when King Henry the Sixth pulled down the Church of S. John Baptist or S. John Zachary (which stood where the west end of King's College Chapel

now is), Trinity Hall and Clare Hall (whose members had used the church) added a north and south aisle respectively to the quire of this church. The present arrangement of the church is due partly to the exertions of the Rev. Harvey Goodwin, M.A. (Vicar 1848–59); partly to those of some of his friends, who, when he was made Dean of Ely 1859, determined to put in a new east window and reredos as a mark of their respect for him. This work was executed by Mr G. G. Scott. To the same period may be referred the open seats, the restored roof, and the west window and doorway. The architect of these was Mr J. R. Brandon. The vestry and organ-chamber were added 1865. Note the font, presented by the Cambridge Camden Society, 1842.

This church is memorable for the sermons preached in it by the Reformers Bilney, Barnes, and Latimer. The latter preached here his two celebrated Card Sermons (19 December, 1529) in which he told his hearers allegorically what trumps would win salvation. Fre. Denison Maurice was vicar for about a year, (1871–his death in 1872).

Leaving S. Edward's Church pass down S. Edward's Passage to the Market-place. At the corner of the passage and the Market-place stood the *Three Tuns* Inn, noted in the diary of Pepys for its good liquor. The house is now a grocer's shop.

Pass along the south side of the Market-place and thence along the street with the strange name of PETTY CURY. In the reign of Edward III. it was called *Petite-curye*, or in Latin *Parva Cokeria*, that is, Little Cookery;—a designation probably derived from its numerous hostels and cookshops. Of the former we have (*right*) the *Red Lion* Hotel, which still preserves its primitive plan; and beyond it considerable remains of *The Falcon* Inn. The street-front has been rebuilt in red brick, and is occupied by Mr Pryor, fishmonger; but in the yard the old arrangement of the south and west sides is still unaltered. Our illustration shews them, and also the north and east sides before their destruction.

Farther on, on the same side of the street, was *The Wrestlers* Inn, recently destroyed. The street-front, with its numerous windows, gables, and carvings, was a splendid example of medieval house-architecture.

We next come to the new Post Office, built 1885. Here stood BARNWELL GATE, one of the two gates of medieval

Cambridge, and here also must have been a bridge over the KING'S DITCH, made by King John in 1215, and strengthened



THE FALCON YARD.

by King Henry III. in 1267. In this part of Cambridge the ditch ran between the Post Office and S. Andrew's

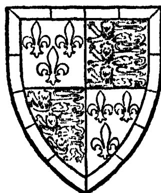
Church, and down Hobson Street. The CHURCH OF S. ANDREW THE GREAT (*right* when you have turned into S. Andrew's Street) was built 1842, to replace an ancient building, of which no fragment was preserved.

The modern church contains nothing of interest except a tablet (against wall *left* of altar) to commemorate Captain Ja. Cook, d. 1779, his wife, and six of their children. His sons Hugh, pensioner of Christ's College (d. 1793), and James (d. 1794), are buried in the central aisle (note the tablet over their grave), with their mother, who survived her husband 56 years (d. 13 May, 1835).

Cross the street to

CHRIST'S COLLEGE,

founded by the Lady Margaret Beaufort, Countess of Richmond, mother of King Henry the Seventh, 1505. God's House, founded by Wm. Bingham, 1436, on part of site of King's College, and removed hither 1446, was absorbed in this foundation.


ARMS OF CHRIST'S COLLEGE.

The buildings which surround the first Court were begun by the Foundress herself, and must have been nearly completed before her death in 1509. Note first the gate of entrance, which bears a close resemblance to that of S. John's College. It has four flanking-turrets, but they are small in proportion to the size of the gate, and none contain staircases. The mass of the gate is divided into two floors; but, unlike that of S. John's College, the upper floor has no external windows on the side next the street. The centre of the whole composition is occupied by a tabernacle, doubtless intended to receive a statue of the Foundress, which was given some years ago by S. Sandars, M.A. On each side of this is one of the windows, now blocked, which once lighted the first-floor; on the second-floor there are panels containing respectively a rose and a portcullis, both crowned.

As at S. John's College the rising stem of the hood-mold of the arch has a shield affixed to it bearing the arms of France and England quarterly, crowned, and supported by the antelopes of Beaufort. In addition to these arms an eagle collared, the crest of Beaufort, rises out of the crown, and the string-course, which crosses the gate and the flanking turrets at the same level, is carried up square above it, so that it is set in a sort of panel. On each side of it are three ostrich feathers, rising out of a band or coronet, and below them three others, not

fastened together. These were badges of John Beaufort, Duke of Somerset, father of the Foundress. The rest of the spandrel-space contains other badges peculiar to the Foundress and her son: the portcullis; the rose *en soleil*, crowned; and the daisy. Daisies are also represented as growing out of the ground on which these badges are set in relief. In the centre of the irregular triangle formed by the arch and the side-branches of the hood-mold is a portcullis; and the corbel-heads are carved in a dragon and a greyhound respectively.

Unfortunately the walls were originally built of clunch in courses, alternating with red brick; and from the perishable nature of that material they had acquired, by the end of the seventeenth century, so repulsive an appearance that persons are said to have been deterred from entering students at the college. Repair was therefore unavoidable, and in the course of the eighteenth century the street-façade, and the whole of the interior of the court, were ashlared in the classical style then in fashion.

On entering the court note that the Chapel is on the north side (*left*); the Master's Lodge (next to the chapel), and the Hall are on the east side; and the Buttery, with the Combination Room over it, is in the S.E. corner. The Kitchen stands outside the quadrangle, between the Hall and Christ's Lane. The south side, the west side, and part of the north side, are occupied by chambers.

The Library, entered near the S.W. corner, has lately been absorbed in a new room 81 ft. long, extending to Christ's Lane (G. F. Bodley, R.A., architect); and some of the windows in the court, and all in the façade as far as the gate, have been restored from Loggan's print (1690).

Enter the Ante-Chapel, and note that it was always, as now, a low room with a chamber over it approached by a turret-stair at the N.W. corner. This chamber was possibly intended for the sacrist. The four columns which support the floor were put up in 1661.

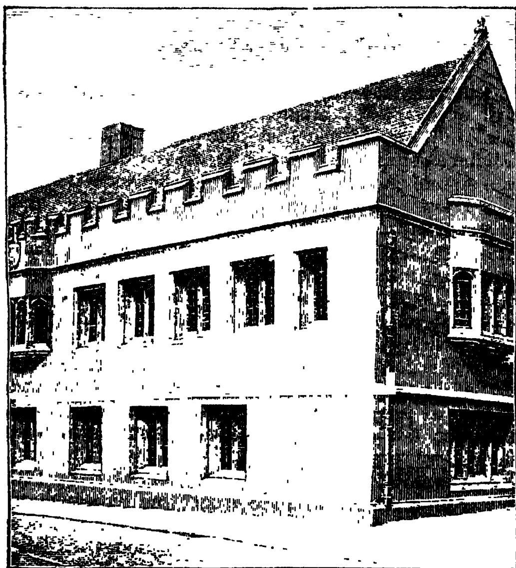
The internal fittings of the Chapel were put up 1701—2; but it was re-decorated in 1898 under the direction of G. F. Bodley, R.A., architect. Note the oriel in the south wall opening into a room in the Master's lodge called "The Prayer Room." This oriel, and the room, were restored by the late Master in 1899.

The fine fragments of stained glass in the windows on the north side were brought from God's House in 1510. The

6—2

east window was given by members of the college in memory of the late Master, Dr John Peile (1887—1910). The glass in the windows on the south side commemorates W. M. Gunson, M.A., Fellow, d. 1881.

Note the monument to the memory of Sir John Finch and Sir Tho. Baines by Joseph Catterns, finished 1684. Baines d. 5 September, 1680; Finch d. 18 November, 1682. The epitaph was written by Henry More, Fellow and Tutor. Within the altar-rails is a brass commemorating Edward Hawford, D.D. (Master 1559—81). Note the fine original brass lectern.



CHRIST'S COLLEGE: *New Library.*

The three rooms on the first-floor of the MASTER'S LODGE looking into the court were reserved for the use of the

Foundress. The rich carving on the lower part of the oriel of her chamber is the only portion of the old work in the court that was suffered to remain. She may have stood at this very window when, as Fuller tells us, she

"saw the dean call a faulty scholar to correction; to whom she said '*Lente, lente,*' Gently, gently, as accounting it better to mitigate his punishment than procure his pardon: mercy and justice making the best medley to offenders."

In the west wall, opposite to the oriel, a stone fireplace was discovered in 1887, charged with the badges of the Foundress, and evidently of her time.

The HALL was entirely rebuilt by G. G. Scott, M.A., 1876. The walls were raised 6 feet, but the roof and most of the old materials were used again. A new oriel was built on the east side. Note the two windows looking into the Hall from the Foundress's chamber; and the screen, of which the parts that are original can easily be recognised.

Among the portraits note the following:

On the dais,	*above*:	The Foundress.
,,	*left*:	William Paley, d. 1805: Romney (copy).
,,	*centre*:	John Milton, d. 1674.
,,	*right*:	Cha. Darwin, d. 1882: Ouless.

The west oriel is filled with stained glass representing the benefactors and distinguished members of the College, in commemoration of Wm. Mandel Gunson, M.A., formerly Fellow and Tutor, d. 1881.

Pass through the Screens into the Second Court. The range of chambers to the right was built 1823, and need not detain you; but the building facing you is of great beauty and interest. It was built between 1640 and 1642. It is 150 feet long, containing chambers only, in three floors, with a garret-storey in the roof. There are four sets of chambers on each floor. It presents a façade of masonry on both sides, the design of which is traditionally attributed to Inigo Jones. It is scarcely in his style, but nevertheless is manifestly the work of a great architect within and without.

Beyond this building is another, similar in style, erected 1888—89, from the design of Mr J. J. Stevenson, architect, to which was added in 1907 an extra block in commemoration of the quater-centenary of the college.

The garden is entered through an iron gate in the centre of the building of 1642. It is one of the most beautiful

and least altered of the college-gardens. Note the bath and summerhouse, and the mulberry-tree which tradition associates



GARDEN OF CHRIST'S COLLEGE *the building of 1642 in the distance.*

with the poet Milton, admitted a pensioner of this college 12 February, 1625. More probably the tree is the last survivor of a large number bought in 1609, when King James I. was doing his best to introduce the culture of the mulberry into this country.

At the end of the street absurdly called Hobson Street, after the famous carrier, who had no connexion whatever with this part of Cambridge, is the new County Hall, built in 1913, from the designs of Mr H. H. Dunn, the County Architect.

On leaving Christ's College, turn to the right, past Lloyds Bank, built 1893. At the corner of Sidney Street and Market Street is the

CHURCH OF THE HOLY TRINITY,

originally a small building of late thirteenth century work. The tower-piers are of this period; and the chancel, destroyed 1834, was probably, to judge from engravings, not much later. Note the excellent proportions of the three sharply pointed arches under the tower. The internal buttresses were added about 1500.

The nave and aisles were rebuilt late in the fourteenth century. The new nave is probably a good deal wider than the old one. Both the arcades, and the wall of the north aisle, still remain. Note the traces of one of the dedication-crosses on this wall between the windows. In this aisle, close to the door, is the tomb of Sir Rob. Tabor (buried 17 November, 1681). The south aisle was widened about 1520.

The transepts, now the most striking feature in the church, were added about 1550; the north porch and the nave clerestory are of the same period. The south transept was originally a very rich piece of work, decorated in various parts with a cresting of leaves very delicately carved. It appears to have contained the altar of S. Erasmus.

The chancel was rebuilt in brick, 1834, and faced with stone, 1885. The windows were altered at the latter date.

Note (*right*) tablets commemorating Rev. Cha. Simeon, M.A., 54 years Vicar, d. 1836; Rev. Hen. Martyn, B.D., d. 1812; Rev. Tho. Truebody Thomason, M.A., d. 1829; Rev. Claudius Buchanan, D.D., d. 1815; Rev. Dan. Corrie, D.D., d. 1837; all, as the tablet to the latter two records, "sent out as Chaplains in the Hon. East India Company's service through the influence of the Rev. Cha. Simeon"; Rev. Tho. Rawson Birks, vicar 1866–77, d. 1877: *left*, Rev. Wm. Carus, vicar 1836–1851, d. 1891; Rev. Cha. Clayton, vicar 1851–65, d. 1883.

On the west side of the churchyard, with a gable to Market Street, is the HENRY MARTYN HALL, opened in October, 1887, to serve as the headquarters of the University Church

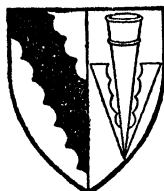
Missionary Society, for prayer meetings, and for such other purposes as the trustees might approve. Note Inscription, by Rev. C. J. Vaughan, D.D., on east gable.

Turn *left* along Sidney Street, and note the *True Blue* Inn, probably erected towards the end of the sixteenth century. It contains a good deal of Jacobean carving in the lower rooms, and is altogether of quaint construction. Lower down is

SIDNEY SUSSEX COLLEGE,

founded 1589 by a bequest of the Lady Frances Sidney Sussex.

This College, the second of those established after the Reformation on sites belonging to suppressed Religious Houses (Emmanuel College being the first), occupies the site of the house of the Franciscan Friars. When they had surrendered their house to King Henry the Eighth, in 1538, great efforts were made by the University to obtain possession of it. It is described as "not only a grace and ornament to the University, but presents great conveniences for holding congregations and transacting all kinds of University business." These efforts were unsuccessful, and the house was given to Trinity College in 1546. Before that time, however, it had been practically destroyed, having been for some months used by that college as a quarry. One building only escaped, conjectured to have been the Refectory (see below).



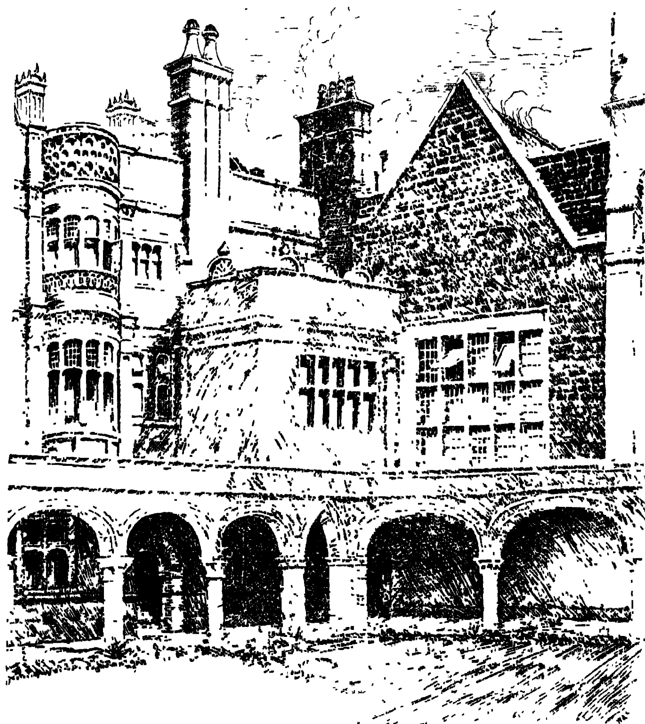
ARMS OF SIDNEY SUSSEX COLLEGE.

The buildings of the College were designed by Ralph Symons (see p. 56), begun 1596, and completed 1598. They were disposed round the three sides of the northernmost of the two existing courts; the fourth side being enclosed by a wall only, with a gatehouse in the centre. This arrangement was obviously suggested by the quadrangle designed by Dr Caius (see above p. 29) for his own college. The north and south sides contain chambers in three floors: the Hall is at the north end of the east range, and the Buttery and Kitchen at the south end, with the Master's Lodge above them. These buildings were of a rich red brick with stone dressings; picturesque gables and chimneys relieved the plainness of the style employed.

The building mentioned above as the Refectory of the

Franciscans was fitted up as a chapel in 1602. It occupied the site of the east side of the second court. The range which forms the south side of this court was built 1628.

(For additions to chapel, see Recent Additions, p. xxv.)



SIDNEY SUSSEX COLLEGE: *South-east corner of New Court.*

The College received its present appearance in 1831–32

at the hands of Jeffrey Wyatt, afterwards created Sir Jeffrey Wyattville by George IV.

A passage in the centre of the north range of the principal court leads to the new building, erected 1890, from the design of Mr J. L. Pearson, architect. Our illustration shews the S.E. corner, where it abuts upon the older part of the College.

In the HALL note the portrait of the Foundress (at the north end, over the centre of the high table), and especially (*left*) that of OLIVER CROMWELL, who was entered as a fellow-commoner here 23 April, 1616.

The true history of this famous portrait is as follows:

In 1766 the Master of the College, Dr Wm. Elliston, received an anonymous letter dated "London, 15 January," informing him that "An Englishman, An Assertor of Liberty, Citizen of the World, is desirous of having the honour to present an original Portrait in Crayons of the Head of O. Cromwell, Protector, drawn by Cooper, to Sydney Sussex College, in Cambridge." The writer requested that on the arrival of the picture "the favour of a line may be written to Pierce Delver, at Mr Shove's, Bookbinder, in Maiden Lane, Covent Garden, London." The portrait arrived, and the letter of acknowledgement was written, but the donor did not make himself known; and it was not until 1780 that the identity of "Pierce Delver" with Thomas Hollis, an ardent republican, was discovered. Mr Geo. Scharf thinks it not improbable that Mr Hollis may have been mistaken in believing that this portrait is by Samuel Cooper, and that it may be by Sir Peter Lely. He bases this conjecture partly on the style, partly on a passage in Walpole's *Anecdotes of Painting*, in which the author records that Cromwell sat to Lely, and while sitting, said, "Mr Lely, I desire you would use all your skill to paint my picture truly like me, and not flatter me at all; but remark all these roughnesses, pimples, warts, and everything as you see me, otherwise I never will pay a farthing for it."

Turn *right* on leaving Sidney Sussex College. Opposite to the end of Jesus Lane is the east front of WHEWELL'S COURTS, already described under Trinity College (p. 33).

Go down Jesus Lane. On your right is the ancient wall of the Franciscans, now the boundary of the garden of Sidney Sussex College. You pass *left* the UNIVERSITY PITT CLUB, a building with a classical façade (the Club was founded 1837), and, at the corner of Park Street (first turning *left*), the meeting-house of THE SOCIETY OF FRIENDS.

Behind this building, entered from Park Street, is the University AMATEUR DRAMATIC CLUB, better known as the A.D.C., founded in 1855 by F. C. Burnand, late editor of *Punch*, then an undergraduate of Trinity College. The build-

ing contains a club-room and a small theatre, where performances are given twice a year, usually in the Michaelmas and Easter Terms. The King's Ditch, noticed above (p. 81) as crossing S. Andrew's Street nearly opposite Christ's College, after crossing the garden of Sidney Sussex College, passed down Park Street, until recently called Garlic Fair Lane, from a Fair granted to the Nuns of S. Radegund by King Stephen. Thence it fell into the river opposite the Pepysian Library of Magdalene College (p. 67). Further down the street you come (*left*) to

JESUS COLLEGE,

founded 1497, by John Alcock, Bishop of Ely, on the suppression of the nunnery of S. Radegund.

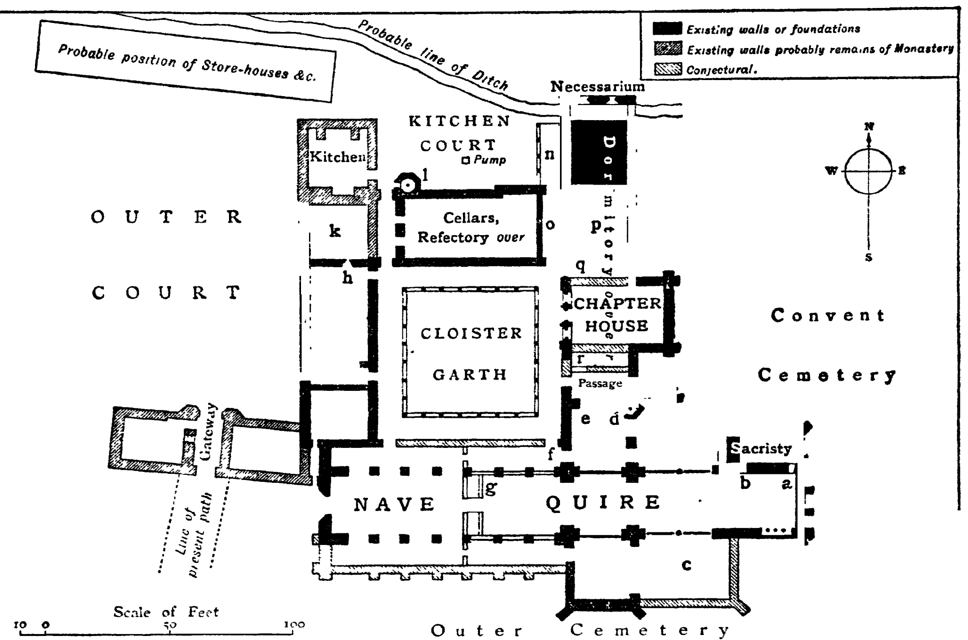
This College, like Sidney Sussex College, was established on the site of a previously existing foundation. There, however, as we have seen (p. 88), the buildings of the Franciscans had been almost entirely destroyed before the foundation of the College, and their arrangement did not affect that of the collegiate buildings. Jesus College, on the contrary, took possession of a Benedictine nunnery, suppressed a century earlier by the Bishop of the diocese on account of the misconduct of its inmates, when the buildings, and especially the church, had suffered from nothing worse than neglect. In consequence the plan of Jesus College is quite different from that of any other College in either University. It is monastic, not collegiate. In order to make this clear we will first describe the original arrangement (see Plan); and next the changes introduced by Alcock.



ARMS OF JESUS COLLEGE.

A Benedictine sisterhood, governed by a Prioress, and called the Priory of S. Mary and S. Radegund to whom their conventual church was dedicated, came to Cambridge early in the 12th century. Part of the buildings that still exist, must, from their style, have been begun soon after that date. During the 13th and 14th centuries the community was evidently opulent and well-managed, for the buildings erected during that period are first-rate specimens of architecture.

The whole House was at some distance from the high road; and the cloister with its surrounding buildings was on the north side of the church. This arrangement was probably adopted in order to prevent annoyance from the traffic along the road, and from parishioners who



PLAN OF THE PRIORY OF S RADEGUND.
Measured and drawn by T. D. Atkinson, architect.

had a right to use part of the conventual church. The west door would be approached by a roadway on the line of the present high-walled path (popularly known as *The Chimney*), which would also lead to the gate of the outer court of the monastery, on the site, most probably, of the existing gate of the college. From this Outer Court a passage led into the cloister.

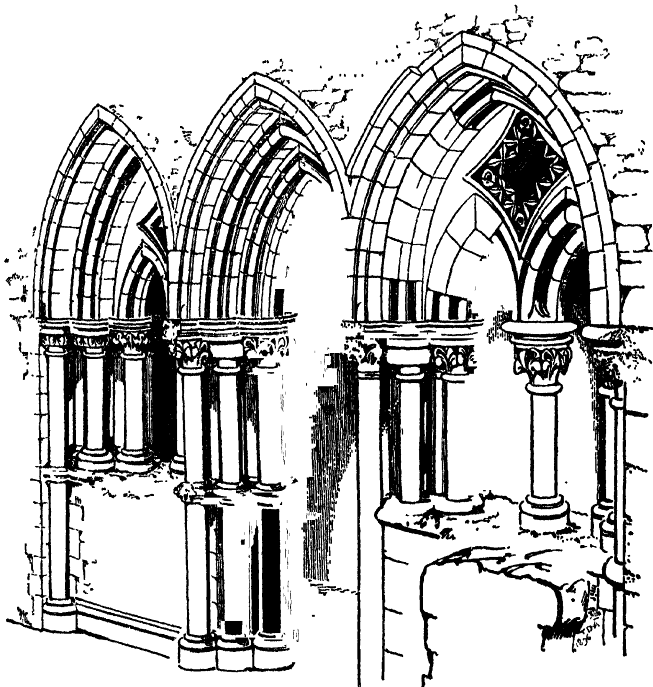
The Church was cruciform in plan, with a central tower. It consisted of an eastern arm or presbytery of three bays with aisles of two bays, north and south transepts, and a nave with aisles of seven bays. The north transept had an aisle on the east side only, and probably there was originally a similar aisle on the east side of the south transept. The south aisle of the presbytery (*c*) appears to have been widened in the fourteenth century, for a large arch of that period occupies the whole of the east side of the south transept. The stalls doubtless extended into the nave, perhaps as far as the present west wall (*g*) which may represent the division between the church of the nuns and the church of the parish. On the north side of the presbytery there was a building which formed, externally, a continuation of the aisle. It was entered from the presbytery by a door (*b*) now blocked. It was in two floors, for there is a loop-hole or squint high up in the chancel-wall (*a*) evidently cut in such a direction that the light before the High Altar could be seen from the upper floor. This building may have served the double purpose of a sacristy and a sacrist's chamber.

A door in the north aisle of the nave (*f*) led into the cloister. A second door (*e*), now blocked, led out of the north transept either into a passage, or, more probably, a vestry. Beyond this passage or vestry were the stairs (*r*) leading to the Dormitory; and beyond these again the Chapter-house. The west end of this building is occupied by three arches (see woodcut), the middle one forming a doorway, and those at the sides containing each a window of two lights with a quatrefoil above. There appears to have been no means of closing the door, nor had the windows glass or shutters. The style of the work shews that it was built about 1210. This beautiful relic was discovered in 1893; and subsequent researches have revealed the eastward extent of the room.

Beyond the Chapter-House part of an arch may be seen behind a modern window (*q*). Here was probably the passage to the cemetery. The room next to it (*p*) may have been the Warming Room (*Calefactorium*), where the inmates might warm themselves at stated hours at the only fire allowed in the whole House.

From this angle of the cloister a passage (*o*) continued by a pentise (*n*) led to the Kitchen Court. The Refectory of the nuns is obviously represented by the existing Hall; and an additional proof of its monastic character is afforded by the fact that it is raised on a range of cellars, a feature universal in monasteries, but rare in colleges. Moreover, the usual arrangement of screens is absent, the kitchen and butteries being on a lower level. There was a spiral service-stair (*l*) at the north-west corner. The Kitchen of the College is doubtless that of the nuns. The room next to it (*k*), now the kitchen-office, was their buttery, next to which again was the cook's chamber, a narrow room, now used for the passage from the outer court to the cloister. In the north wall of this room or passage is an acutely arched opening (*h*), once evidently closed

by a shutter, one of the hinges of which remains. This opening perhaps contained a "Turn" or "Rota," a contrivance for obtaining food without the giver or the receiver seeing each other.

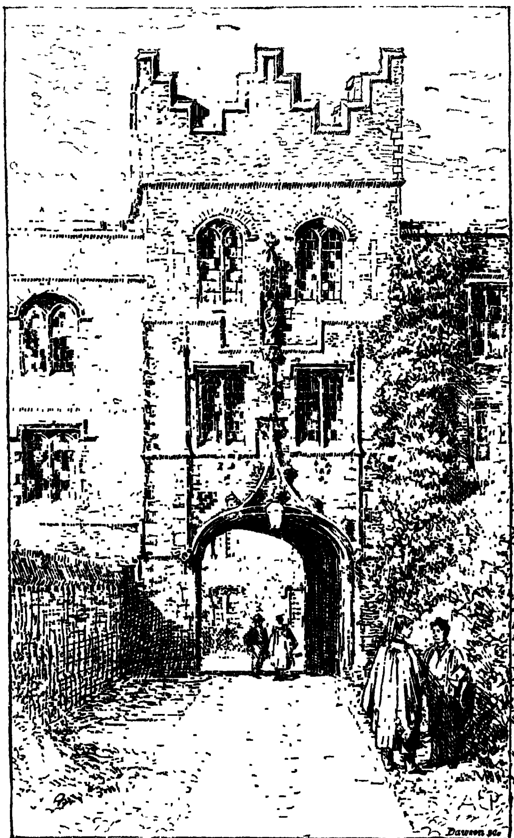


PRIORY OF S. RADEGUND: *Door of Chapter-House.*

Next to the Cook's Chamber may be placed the Parlour, where the nuns were allowed to see their friends, and next to that again some of the offices connected with the business of the house. Between the passage from the outer court to the cloister and the church was the lodging of the Prioress, now part of the Master's Lodge.

Begin your examination of Jesus College by noting the tower-gateway, of unique design. The range out of which it

rises unfortunately received a third floor in 1718, by which the effect of the tower was much injured. Note Alcock's crest on the gate, and elsewhere, a cock standing on a globe.



JESUS COLLEGE: *Gate of Entrance.*

From the entrance-court pass into the cloister, through a doorway of Alcock's time, though not where he placed it. In going through the passage notice (*left*) the lancet-window described above.

Before proceeding further take a view of what Alcock did. He proposed to found a College for a Master, six fellows, and a certain number of scholars; for whose use the church of the nuns was far too large, while other buildings, as the Infirmary, were not required. He therefore pulled down the aisles of the quire and the nave, and cut off four bays at the west end of the latter. The pier-arches were walled up, and the windows replaced by others in the style then in fashion. The east range of the cloister he transformed entirely, walling up the arches of the chapter-house, and changing the dormitory of the nuns into ordinary chambers. The HALL, as mentioned above, is probably that of the nuns, but to a certain extent rebuilt by Alcock. The Hall of the nuns was thatched. The COMBINATION ROOM, eastward of the Hall, is of later date. The Kitchen is practically that of the nuns. The west range was also altered and raised by Alcock, and a LIBRARY was built by him on the upper floor. The Cloister was made larger by the addition of the space occupied by the north aisle of the church, and its level raised by about two feet. The present cloister-arcades are modern.

Enter the CHAPEL, which deserves careful study. The restoration, begun 1846, is in excellent taste. After the removal of ceilings, partitions, etc. in the course of which the original extent of the nuns' church was discovered, the north aisle of the quire and the organ-chamber were rebuilt; the roof of the quire was raised to its original level; the Early English triplet at the east end was restored from fragments found built into the wall; and new woodwork was constructed in accordance with the style of some fragments still remaining. The lectern, altar furniture, and organ were given at the same time. The lancets were filled with glass, mostly designed by Pugin and executed by Hardman. The two windows above the stalls were glazed in 1914 from designs by Sir E. Burne Jones.

Note the north transept, the earliest portion of the church, with a noble triplet of Norman windows in the north wall, and in the east wall a gallery, approached by a spiral stair (*d*), having towards the transept an arcade of five round-headed

arches, and three similar windows in the outer wall. This is evidently an original clerestory; and the roof of the chapels, into which the two low pointed pier-arches beneath it opened, must have been at first so low as to join the wall below the cills of these windows. These arches were filled with heavy tracery 1846–47, to strengthen the wall. An organ-chamber and vestry were then built on the old foundations. Note also the pier-arches of the tower, and the roof-storey gallery above them. The upper part of the tower was obviously added by Alcock.

The ante-chapel is now fitted with seats and desks, the space eastward of the screen being insufficient for the increased numbers of the College. Note the stall-work of Alcock's period, recovered from the church of Landbeach, to which it had been removed 1792. The windows in the transepts and nave were glazed by Morris Faulkner and Co. after the designs of Mr Madox Brown and Mr Burne Jones, 1873–77.

The subjects are the following, counted from left to right, beginning with the north-east window in the south transept:

I.

1. Persian Sibyl; Annunciation of the Virgin.
2. S. Matthew; Nativity of Christ.
3. Cumean Sibyl; Adoration of the Magi.

II.

1. Delphic Sibyl; Agony in the Garden.
2. S. Luke; Flagellation of Christ.
3. Cimmerian Sibyl; Christ bearing His Cross.

III. (Window in South Wall.)

Row I. Seraphim, Cherubim, Thrones, Powers, Dominations.
Row II. Princedoms, Virtues, Archangels, Angels, The Almighty.
Row III. SS. Ursula, Dorothy, Radegund, Cecilia, Catherine.
Row IV. SS. Jerome, Gregory; Bishop Alcock; SS. Ambrose, Augustine.

IV.

1. Phrygian Sibyl; Christ recognised by Mary Magdalene.
2. S. Mark; Incredulity of S. Thomas.
3. Libyan Sibyl; Supper at Emmaus.

V.

1. Erythrean Sibyl; Vision of S. Stephen.
2. S. John; Adoration of the Lamb.
3. Sibyl of Tibur; Descent of Holy Spirit.

VI. (East Window, S. Wall of Nave.)

1. Adam; the Fall. 2. Enoch; an Angel leading him. 3. Noah; the Ark. 4. Abraham; Sacrifice of Isaac.

VII.

1. Moses; burning Bush. 2. Samuel; Eli and Samuel in Temple. 3. David; cuts off Goliath's Head. 4. Solomon; builds Temple.

VIII.

1. Isaiah; Destruction of Sennacherib. 2. Jeremiah; Punishment of Nebuchadnezzar. 3. Ezechiel; resurrection of dry bones. 4. Daniel; Den of Lions.

IX. (East Window, North Wall.)

1. Temperance; Anger. 2. Justice; Wrong-doing. 3. Fortitude, Cowardice. 4. Prudence; Folly.

X. (South Window, North Transept.)

1. Hope. 2. Faith. 3. Charity.

XI.

1. Patience. 2. Obedience. 3. Docility.

*** The legends are usually from the Bible. The others are from S. Augustine's chapter on the Sibyls (*De Civitate Dei*, XVIII. 23).

From the Chapel door turn right along the east walk of the cloister. A passage (*right*) leads to the CHAPEL COURT. Hence you get a good view of the Chapel from the north-east, and of the range of buildings designed, with a Tutor's house, by Messrs Carpenter and Ingelow (1884). Returning to the Cloister note the arches of the Chapter-house (pp. 93, 94), and pass to the Hall, up a staircase (*right*) in the passage turning out of the north walk of the Cloister (*right*).

In the HALL note the glass brought from the Library, representing Alcock's device, and below, a label containing a text expressive of the subject of the books on the adjoining shelves.

Among the portraits note:

In centre of dais: The Founder, John Alcock, bishop of Ely, d. 1500: *left*, King Henry VIII: *right*, Archbishop Cranmer, once Fellow of the College.

On left wall: Tobias Rustat, d. 1693, by Sir Peter Lely; Laurence Sterne, d. 1768, by Alan Ramsay.

The LIBRARY is entered from the vestibule of the Hall. It retains a venerable air of undisturbed antiquity. The bookcases, of oak, were put up 1663–79. They stand at right angles to the walls between the windows, probably in the

same position as those presumably put up by Alcock. Note the stained glass in the windows on the east side, part of which, as noted above, has been moved to the Hall. It is still easy to make out that Physic, Civil Law, Canon Law, and Divinity, were represented.

From the Hall pass into PUMP COURT or NEW COURT, the range on the north side of which was designed by Waterhouse (1870). The range opposite to this, which forms the north side of the Outer Court, was rebuilt 1638–40.

Opposite to the gate of Jesus College are Westcott House Clergy Training School (opened 1899) and the Church of

ALL SAINTS,

rebuilt on this site (1865) from the design of Mr Bodley.

Note in the vestry a copy of Bullinger's *Fiftie Godlie Sermons*, 1587, still bearing the chain with which it was once attached to a desk for general reading.

On leaving Jesus College, turn *left* along Jesus Lane until you reach an open space called Butt's Green, part of Midsummer Common. Here is held MIDSUMMER FAIR (June 22–25), of some celebrity a century since as Pot Fair, but now of little importance. From this point you can conveniently visit the Boat-houses, the part of the River used for Boat-racing, and the suburbs of Barnwell and Chesterton. These can be combined, or any one seen separately. If you wish to reach Emmanuel College as quickly as possible, go on as far as the Four Lamps, and then turn *right*, along the east side of the new Wesley Church, to Christ's Pieces, and thence along Emmanuel Street.

THE RIVER.

Follow Victoria Avenue across the Common to the New Bridge. Should you wish to hire a boat you have a choice of two boat-houses, namely Pocock late Winter almost immediately below the Bridge, and Foster a little further down: to reach them you must cross the Bridge. If however you decide to proceed on foot, follow the towing-path along the right bank. Above the Bridge only one College club has a boat-house, namely, Christ's, which stands next to the Bridge. Below the Bridge, and between it and Pocock's, is the Lady Margaret (S. John's) boat-house, while further down is Caius College boat-house,

between Pocock's and Foster's boat-houses. Next below Foster's are the First Trinity, University or Goldie (named after the famous stroke of that name), Jesus, and Trinity Hall, boat-houses in the order named. On the Jesus boat-house the inscription 1875–1885 shews the number of successive years during which this College was head of the river. A little further down are five more boat-houses, namely, those of Clare, Pembroke, Emmanuel, Downing, and King's Colleges, the latter being just on the bend of the river known as Barnwell Pool.

Follow the towing-path for another quarter of a mile, and you reach the edge of a Common known as Stourbridge Common. As the river skirts the Common, it makes a long bend to the right; at the apex of this bend, where the Horse Ferry, commonly called "Big Horse-Grind," crosses from Chesterton Village to the Common, is the finishing post of the first seven boats in a Division of the Bumping Races, and the winning post of the Light Fours. When the towing-path comes to an end, opposite the *Pike and Eel* Public-house, cross in the ferry, which is always plying, to the left bank. As you walk down the towing-path you will see in front of you the Railway Bridge spanning the river. About half way between the bridge and the *Pike and Eel* the river bends slightly, and on the bend is the finishing-post for the last seven boats of the Division. As you pass below the Railway Bridge you will see that the river widens into a long straight reach, known as the Long Reach, near the top of which, just below the bridge, is the winning-post for the University Sculls and Clinker Fours. Walk to the bottom of the Long Reach. The river here bends in a long wide sweep to the left, the corner being known as Ditton Corner, from the village of Fen Ditton on the opposite bank. You now find yourself by a broad short reach of the river, called the Plough Reach. This reach ends in an almost right-angled corner, named Grassy Corner, the bend of which is in the opposite direction to that of Ditton. The river will here be seen to narrow into what is known as the Gut, but quickly bending to the left, round a third sharp corner—called First Post Corner—widens out into a long and fairly straight reach, called Post Reach. This can be followed along the towing-path as far as Baitsbite Lock.

The races are rowed up stream. In the Eight-oared

Bumping Races, the starting posts are 150ft. apart, 15 boats rowing in a division. The bottom boat starts a little above Baitsbite Lock, the head boat a short distance below First Post Corner.

The starting-post for Fours, Sculls, etc. is at what is known as the Little Bridge, near the point where the trees which overhang the towing-path come to an end. The full University Course, *i.e.* from the Little Bridge to the Big Horse-Grind, is about 1¾ miles; the Lock to Lock Course, *i.e.* the course between Jesus Lock and Baitsbite Lock, is about 3½ miles.

On your return cross Stourbridge Common by one of the numerous paths so as to reach a large red-brick house visible a long way off, in a road called Garlic Road. You are now on the ground where the once famous STOURBRIDGE FAIR used to be held. The house, still called the Oyster House or Tiled Booth, was in the palmy days of the fair a tavern, where the Vice-Chancellor and University officers dined at the opening of the fair, which began 18 September and ended 10 October; now business is confined to a single day, Horse-Fair Day (25 September).

On reaching the Newmarket Road, turn *left*, and crossing the railway bridge, visit Stourbridge Chapel, more correctly called

HOSPITAL OF S. MARY MAGDALEN,

in a field left of the road, founded for lepers in or about 1199. It is an extremely interesting little building, of good Norman work, with an east window in a more recent style. No remains of any other building have been found near it.

Returning to Cambridge along the Newmarket Road you enter the suburb of Barnwell; the origin of this suburb is probably due to the fair. At a distance of about three-quarters of a mile from Stourbridge Chapel you reach the

CHURCH OF S. ANDREW THE LESS,

(The keys are kept at 142, Newmarket Road)

commonly called The Abbey Church. This it certainly was not. Its exact relation to the Priory is not known. It has been suggested that the Priory, like the nunnery of S. Radegund, was at first parochial as well as monastic, and that

afterwards this building was provided by the monks for the use of the parish. The church is in the Early English style, and was evidently built early in the thirteenth century: It was restored 1854–56, and is now used regularly for service.

At the corner of Abbey Road is a picturesque dwelling-house of the sixteenth century, called the ABBEY HOUSE, built out of the ruins of the Priory by the lay impropriator.

Turning *right* down Abbey Road, and again *right* behind the Abbey House, you come to the only portion left of

BARNWELL PRIORY
(Key at 3, Priory Road),

a house of Augustinian Canons founded near the Castle in 1092, and removed to Barnwell in 1112. The house was well endowed, and the buildings extensive; but after the Dissolution they were used as a quarry, and the only fragment left standing is a small square building, the original use of which is uncertain. The most probable theory is that it formed part of the Cellarer's range on the west side of the cloister, and was known as the Cellarer's Chequer, viz., the office in which the heads of departments kept their accounts and administered their affairs. A chequer, like the National Exchequer, was so called from the check cloth which covered the table and was used with the help of counters in making up reckonings.

From this point you can either continue your walk along the Newmarket Road to the Four Lamps, passing (*left*) CHRIST CHURCH, built 1838–9 from the design of Mr Poynter; or you can walk down East Road past the new Drill Hall to PARKER'S PIECE.

This open space was obtained by the Town from Trinity College 1613, in exchange for the ground west of the river Cam where the avenue and walks are. It derives its name from one Edward Parker, a cook, to whom it had been leased by the college in 1587.

This was the only cricket-ground for either University or Town until 1846, when Mr F. P. Fenner opened his private ground for the use of the former body. To reach this, which was purchased by the University Cricket Club in 1892, go down Gresham Road, on the south or left side of Parker's Piece.

Cross Parker's Piece diagonally to the N.-W. corner, by the *University Arms* Hotel, and turn *right* down Regent Street or S. Andrew's Street for a short distance. On the right is the

New Theatre

built from the designs of Ernest Runtz, architect.

The foundation-stone, in the main entrance, was laid by H. Beerbohm Tree, Esq. 12 June, 1895, and the building was completed within a period of twenty-four weeks. It was opened by Mr and Mrs Tree and their Haymarket Company, with a performance of *Hamlet*, 20 January, 1896. The seating of the house is arranged for 1400 persons, but the entire holding capacity is nearly 2000.

The Theatre is open for performances all the year round except for a short vacation (July).

Nearly opposite to the Theatre is the new POLICE STATION, built from the design of John Morley, Esq., architect. It was opened 7 October 1901. Next to this is the BAPTIST CHAPEL, built 1904. These Nonconformists were rendered memorable by the ministrations of Robert Robinson (1759–90), and Robert Hall (1791–1806).

Beyond this Chapel (*left*) is the CASTLE INN, a tavern of considerable antiquity. The older part, with oriel-windows and gables, was originally Rudd's Hostel, one of the lodging-houses occupied by students of the University before they were received into Colleges.

From this point turn up the street again, and passing through the iron gates *right*, visit

Downing College,

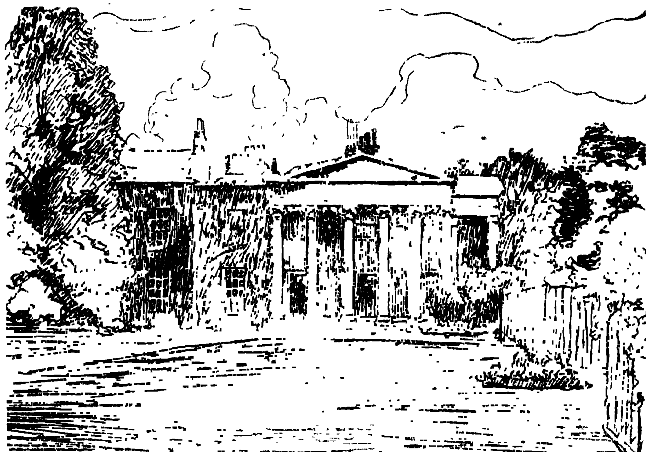
founded by the Will of Sir George Downing, Bart., dated 20 December, 1717. Charter obtained, 1800.

The plan of the intended College—which was to be quite different, both in constitution and arrangement, from any preceding foundation—was designed by Wilkins, and begun 1807. Want of funds has prevented its completion. The two parallel ranges, separated by a wide expanse of grass, represent the east and west sides of his intended court.


ARMS OF DOWNING COLLEGE

The building with a portico on the east side is the Master's Lodge; the corresponding building on the west side is the

Hall, behind which is the Combination Room, Kitchen, and other offices. The Chapel and Library were designed to occupy the south side; while the north side would have been formed by two blocks of building separated by a Doric Portico. This, the principal entrance to the College, would have contained a lecture-room and a porter's lodge.



DOWNING COLLEGE: *Master's Lodge*

Cross the court, with the avenue which once led up to the entrance on your right, to Tennis-court Road (so called from the Tennis-court which stood on the site of Pembroke College at the corner of the road and Downing Street), and then walk *right* along the road till you reach Downing Street.

In front of you and on your right, occupying the northern portion of the site of Downing College, bought by the University 1896–1902, are the *Museums of Science,* described in the Fourth Walk. For the present turn *right* along Downing Street passing (*right*), at the corner of Downing Place, S. Columba's Presbyterian Church, built 1890. Cross S. Andrew's Street and visit

Emmanuel College,

founded by Sir Walter Mildmay, Chancellor of the Exchequer, 1584.

This College, like those of Jesus and Sidney Sussex, entered into possession of the site and buildings of a dissolved religious house, in this case that of the Dominican Friars, or Friars Preachers, who established themselves in Cambridge before 1240. The monastic buildings were still standing when Mildmay took possession of the site, and were adapted by him to the use of his College. Hence the peculiar arrangement.



ARMS OF EMMANUEL COLLEGE.

There are now two quadrangles. On entering the larger from the street a building containing the Hall and Combination Room stands left, a range of chambers called the Founder's Range right, and the Chapel faces you. On the north (*left*) is a smaller quadrangle formerly open to Emmanuel Lane, with the Library on the east side, and a range of chambers on the west side. Originally the entrance to the College was from Emmanuel Lane through this smaller court. The building of which the Hall forms part was the Dominican Church, and the range on the west side of the larger court was also part of their buildings, perhaps their Dormitory. The present Library was adapted by Mildmay for use as a Chapel. It is said that, being a Puritan, he purposely shewed his contempt for tradition by making the above use of a church, and placing his chapel north and south. The Founder's Range was probably erected while the adaptation of the older buildings was going forward. The whole was carried out by Ralph Symons, the architect who built Sidney Sussex College, the Second Court of S. John's College, and worked for Nevile at Trinity College.

The range next the street was rebuilt, and the present entrance made, by Essex, 1770–75; and the Founder's Range, now called the Westmorland Building, was rebuilt 1718–22.

The Chapel and Cloister, on which is a gallery intended to connect the Master's Lodge with the Chapel and the Founder's Range, were designed by Sir C. Wren, 1666–67, at the suggestion of Dr Sancroft, who had actively promoted the building of a new chapel while Master (1662–65), and con-

tinued his efforts after he became Dean of St Paul's. The plan was obviously suggested by what had been previously done at Peterhouse (p. 113).

In 1884, on the occasion of the tercentenary of the College, stained glass was placed in the windows of the chapel. One of the windows commemorates John Harvard, the principal founder of Harvard University, who was a member of the College. In 1904 a memorial tablet was placed in the chapel by some members of Harvard University.



EMMANUEL COLLEGE · WEST FRONT.

The Chapel having been completed, the old Chapel was fitted up as a LIBRARY, the plan being first submitted to Archbishop Sancroft for his approval. The cases were evidently copied from those in the south room of the University Library.

Pass through the cloister (south of the Chapel), and note, first the "Brick Building," a range of chambers built 1633–34; and next the Hostel, on the opposite side of the Close, built, with the tutor's house next to it, between 1885 and 1894. In the south-west corner of the Close a range of Lecture Rooms was erected in 1909–10 from the designs of Mr Leonard Stokes. The accommodation is rather more elaborate than has hitherto been thought necessary for College purposes. The building is faced with Clare bricks and Weldon stone, and is

roofed with local tiles. The interior woodwork is of African walnut. The boundary-wall of the Close on the south probably dates from the Dominicans.

The Fellows' Garden is beautifully planted, with a bath, summer-house, etc., as at Christ's College.

(For new North Court, see Recent Additions, p. xxv.)

On leaving Emmanuel College turn *right* down S. Andrew's Street. Note in passing the new Library of Christ's College, with the picturesque gable and oriel window at the south end.

Walk thence along Petty Cury, into the Market-Place, whence we started.

THIRD WALK.

We will suppose the visitor to start at

The Fitzwilliam Museum.

Richard, Viscount Fitzwilliam, of Trinity Hall (M.A. 1764), who died 5th February, 1816, bequeathed to the University his collection of books, paintings, illuminated MSS., engravings, etc., and the dividends of £100,000 South Sea Annuities for the erection and maintenance of a museum for their reception.

The foundation-stone of the existing building was laid 2 November, 1837. The Architect was George Basevi. After his death in 1845 (from a fall in Ely Cathedral), the work was carried on by C. R. Cockerell, R.A., until suspended for want of funds in 1847.

The Entrance Hall was not completed until 1875, from the design of E. M. Barry, R.A., at a cost of £23,000. The building has altogether cost about £115,000. For descriptions of the collections see the various *Catalogues* which can be obtained in the Museum.

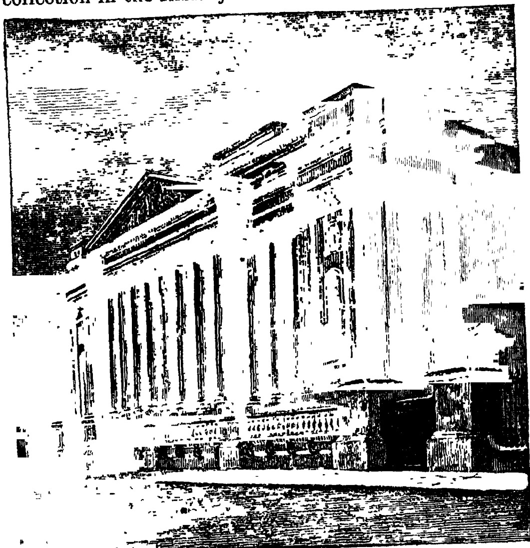
(See also Recent Additions, p. xxvi.)

In the Entrance Hall is a marble statue of H.R.H. the Prince Consort, Chancellor of the University 1847–1861, by Foley. Round the upper vestibule are cases for pottery and porcelain and several interesting pieces of sculpture. Note the busts of Horne Tooke and E. D. Clarke (Prof. of Mineralogy 1808–22), by Chantrey.

The left-hand Picture Gallery (*Gallery I*) contains a collection of pictures bequeathed by Mr Daniel Mesman in 1834, consisting chiefly of small examples of the Dutch and Flemish Schools; cases of medieval manuscripts, autographs and coins; and twenty-five drawings by J. W. M. Turner, presented by Ruskin in 1861. Note specially Nos. 228–231, 240–243, 317,

329, 334, 375, 404. In a niche at the end of the room is the statue of *Glory* by J. Baratta, 1715, given to the University in 1745.

Gallery II. In this Gallery is a fine portrait by Sir Henry Raeburn, some good specimens of the Canaletto School, and a selection of illuminations from manuscripts, drawings, etc. from the collection in the Library. Notice 186, 215, 220.



THE FITZWILLIAM MUSEUM.

Gallery III. This fine Gallery, 68 feet long by 39 feet wide, contains the principal pictures of the Fitzwilliam Collection, namely, the *Portrait of an Officer* by Rembrandt, signed and dated 1636; *Hermes, Herse, and Aglauros* by Paul Veronese; *Venus and Cupid* by Titian; and a *Venus* by Palma Vecchio. The last three, with others in the collection, were purchased by Viscount Fitzwilliam from the Orleans Gallery. At the north end of the room is a portrait of the founder as

fellow-commoner; and some good specimens of Hogarth, George Morland, and Gainsborough. On the west side are very fine examples of Hobbema, Both, G. Dou, Ruysdael, J. Steen, Van de Velde and others, mostly signed and dated. Note Nos. 18, 21, 24, 33, 36, 49, 56, 63, 104, 109, 119, 129, 143, 144, 150, 152, 159.

Gallery IV contains English pictures, including fine examples of Hogarth and Reynolds; and portraits of Professor Westcott, d. 1901, by W. B. Richmond; the Duke of Devonshire (Chancellor of the University 1861–92) by G. F. Watts; and Professor Fawcett, d. 1884, by H. Herkomer.

Gallery V. On the north wall is a collection of fifteen paintings on panel illustrative of early Italian Art, bought 1893. Note the Ivory Model of the Taj Mahal at Agra, presented 1842 by Richard Burney, M.A., Christ's College.

Leaving this Gallery, and descending to the ground-floor by the first staircase, enter by door on right. In this and the adjoining Gallery is arranged the collection of Egyptian objects. The coffin and outer case of Nesi-pa-ur-shef (1500 B.C.), one of the finest examples in Europe; the sarcophagus-lid of Rameses III. (1200 B.C.), the sarcophagus being in the Louvre; and the cartonnage of Nekht-ef Mut (966–800 B.C.) are especially worthy of attention. The exhibits, which are arranged as nearly as possible in chronological order, range from the Prehistoric period to the Roman period (200 B.C.).

The Centre Gallery contains a collection of antique sculpture formed partly by John Disney, and presented by him in 1854, and partly by Dr E. D. Clarke. The latter collection was transferred from the University Library to this Museum in 1865. Here are also Bronzes from the Leake collection, and the Taylor collection of Indian Arms. Note the altar of Baal and Ashtaroth from Kanawát in Syria, and the marble sarcophagi at each end of this Gallery; also the Greek and Etruscan vases, and the Phœnician, Greek and Roman glass. Note the vases, inscriptions, weapons of bronze and iron, ornaments of gold and silver, and other objects, brought from Cyprus.

Here also is the fragment of an ancient Greek statue, brought in 1801 by Dr E. D. Clarke from Eleusis. It was then thought to be part

of the famous statue of Ceres, but is now considered to represent a Cistophorus. Note the cast of another piece of this statue, found by Mr Sidney Colvin at Eleusis. It proves the justice of the view that both arms were raised to support the basket, and shews their position.

The south room on this floor (*right* as you ascend the staircase from the Sculpture Gallery) contains the Library (shewn only under special conditions). Besides a general collection of works on art, partly formed by Viscount Fitzwilliam, partly got together subsequently by donation and purchase, there is an unusually fine series of woodcuts and engravings. The works of A. Durer, Lucas van Leyden, Marc Antonio, Martin Schongauer, Rembrandt, and the Little German Masters, are very fully represented. Here are also many volumes of manuscript music by Bach, Blow, Handel, Haydn, Purcell. The collection of works by Handel is considered to be second in importance only to that at the British Museum.

The collection of Greek coins formed by Lieut.-Col. Leake, and bought after his death in 1864, is placed in this room, with a still finer collection presented by J. R. M'Clean, M.A., of Trinity College.

A little to the right of the Fitzwilliam Museum, on the opposite side of Trumpington Street, is

ADDENBROOKE'S HOSPITAL.

The name is derived from John Addenbrooke, M.D., Fellow of S. Catharine's, who, on his death in 1719, bequeathed funds for the foundation of a Hospital for the poor; but the execution of his intentions was delayed by litigation for nearly fifty years. His endowment has since been largely increased by other bequests and donations.

The first building, erected 1766, was a plain square structure in two floors, of no great extent. Wings were added to this in 1822, with a connecting colonnade; and in 1864–5 the whole building was remodelled and enlarged from the designs of Sir M. Digby Wyatt, at the suggestion of Sir George Murray Humphry, M.D. Since that date further accommodation has been provided, and is still in progress. The number of beds is now 158. The total number of patients treated during the year ending at Michaelmas, 1918, was 9,757. (See also Recent Additions, page xxvi.)

Opposite to the Fitzwilliam Museum is

Fitzwilliam Hall,

the headquarters and centre of the corporate life of the body of Students officially called "Non-Collegiate," to whom, by usage, the house gives its name.


ARMS OF FITZWILLIAM HALL.

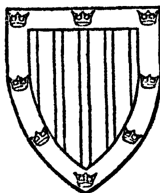
The history of the original house is extremely obscure. On the front is the date 1727, beneath which are the letters I. H., a cross and a Catherine wheel. There is evidence that the Halsted family was residing here in and after 1727. The wheel may commemorate an inn, as in 1590 a small rent-charge payable out of *The Catherine Wheel* was bequeathed to "a learned preacher to preach...That man is justified by faith only in the merits of Jesus Christ," in the parish church, i.e. S. Mary the Less.

On the north side of the Fitzwilliam Museum is

Peterhouse,

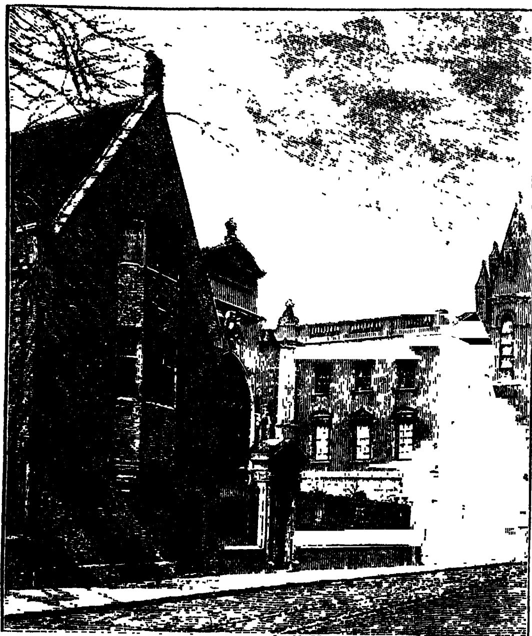
founded by Hugh of Balsham, Bishop of Ely, 1281, and removed by him to the present site 1284.

This is the first College founded in Cambridge, and, notwithstanding many alterations and additions, it still retains some of its primitive buildings. It shews by what gradual steps the first colleges arrived at the quadrangular arrangement with which we are so familiar. When the collegiate system was started no one could tell whether it would be a success or a failure, and founders therefore provided only that which was indispensable, viz. rooms for sleep and work; a church for prayers; and a hall for meals. An ordinary dwelling-house supplied the first; a parish church the second; and the third had usually to be built.


ARMS OF PETERHOUSE.

The Bishop first placed his fourteen scholars and their Master in two dwelling-houses, which stood next the street where the Chapel now is. He died two years afterwards (1286), and with the 300 marks that he bequeathed to them his scholars bought a piece of ground behind their house, and "built thereon a handsome Hall" and Buttery. This Hall is still standing, but much altered. At each end of the screens, however, there is an unaltered doorway, which may be referred to the first construction. Pass through the screens, and note how different the masonry of the building containing the Hall and Buttery is from that of the Kitchen (1450) or the Parlour (1460). The first kitchen was probably of wood.

No further building took place for more than a century, for the range on the north side of the quadrangle was not begun till 1424, nor that on the west side till 1431. This latter contained the Library. You can still see the braces of the roof in some of the rooms on the first-floor, and the circular stone staircase that led to it still exists in the S.W.



PETERHOUSE: *Front of College to Trumpington Street.*

corner, behind the classical facing added to the whole court in 1754. In 1460 the Combination Room, then called Stone Parlour, with the Master's Lodging over it, was built. Note the staircase on the side next the garden, by which the Master

could reach the Parlour and the Hall without going into the court. By this last addition just a century and three-quarters after the foundation, the College obtained a quadrangle of three sides, closed on the east by a wall, between which and the street the primitive houses acquired by the Founder still existed. The entrance to this quadrangle was from the churchyard of S. Mary the Less, under the gallery leading to the Chancel (see below, p. 114).

In 1590, 130 years after the last recorded work, Dr Perne, Master (1553–89), bequeathed to the College his books, and funds to build a room to contain them. This building, next the Combination Room, was continued to the street in 1633 (note the date on the gable), forming the left side of the front court as you enter the College. The extent of the two pieces of building can be readily seen on the south side.

In 1632 Dr Matthew Wren (Master 1625–34), uncle of the celebrated architect, got the old houses next the street pulled down, and replaced by a range of chambers on a site nearly the same as that on which the present north side of the entrance court stands. While this work was proceeding he began the Chapel and Cloisters, but they were not completely finished till after the Restoration.

In the CHAPEL note the woodwork, probably original, with the addition of some medieval panelling, brought from elsewhere. The east window was glazed at the same time, the cost being defrayed by Luke Skippon, brother of the famous Parliamentary General. The design, representing the Crucifixion, is by Rubens. Those in the north and south walls were executed by Prof. Ainmuller of Munich 1855–58, one pair as a memorial to William Smyth, M.A., Professor of Modern History (1807–49).

Note that the arches on the west front of the Chapel are of the original design, while those of the cloister-arcades have been rebuilt (1709), but with the old materials.

The building on the north of the entrance-court was designed by Burrough (afterwards Sir J. Burrough) in 1732. It was at that time intended to pull down the cloisters and Perne's Library, and to replace them by buildings like the one erected, but this scheme was fortunately abandoned.

Beyond the principal Court is the GISBORNE COURT, built 1825 by the Rev. Fra. Gisborne, formerly Fellow. The HALL was almost rebuilt under the direction of Mr G. G. Scott, 1868–71. Note the portraits of distinguished members of the

College, the most important of which are (over the dais), Tait (of Edinburgh) by Sir G. Reid; Kelvin, by Lowes Dickinson; Sir J. Dewar, by Orchardson; Sir A. W. Ward, by Hugh Riviere; Abp Maclagan, by Hon. J. Collier, on the screen. The stained glass windows are by Morris & Co.

The Grove and Fellows' Garden are worth a visit (entrance through the passage between Hall and Buttery).

Note the massive wall next the Fen (here called Coe Fen) built 1501–2; and the ancient doorway leading to the Fen, with the arms of John Hotham, Bp. of Ely 1316–37, on the outside, and those of John Alcock, Bp. of same see 1486–1500, on the inside.

In connection with Peterhouse visit the

CHURCH OF S. MARY THE LESS,

used as the College chapel until the new chapel was built. This church, originally dedicated to S. Peter, dates from the 12th century. A fragment of the tower of the church of that date is still standing at the N.W. angle of the present building.

The present church was built 1340–52. In the course of extensive repairs undertaken 1857 remains of an arch were found opposite the sixth buttress, counting from the east, shewing that the eastern portion would have formed a collegiate quire, the western a parochial nave, but of what extent is unknown. The west wall with its window, and the westernmost window on the south side, are of later date than the rest of the church. There were chantry-chapels on the north and south sides: that on the north was founded by Tho. Lane, Master of Peterhouse 1436–73; that on the south by Hen. Horneby, Master 1500–17.

Note the beautiful Decorated east window, the remains of piscina and sedilia, and the window over these panelled in stone for half its height to allow for the vestry. The stained glass in the east window was given by J. Hamblin Smith, M.A., 1892.

Go round the west end of the church and note the north wall of the College, which has been left with its successive patchings and alterations unchanged, and the gallery connecting the College with the church. The vestibule under this gallery, originally vaulted, was provided for the use of the parishioners, who entered the churchyard on the south side before the College building of 1732 was set up, and the church by a south porch (recently rebuilt). The gallery

enabled the members of Peterhouse to reach the church without going beyond the College precincts.

Near the entrance is a monumental tablet, which is noteworthy on account of the association of the name of Washington with the stars and stripes. The inscription is as follows: "Near this Place lyeth the Body of the Late Revd. Mr. Godfrey Washington of the County of York. Minister of this Church and Fellow of St. Peter's Colledge. Born July 26 1670, and Dyed the 28th day of Sep^r. 1729."

Beyond the churchyard to the west is the building erected by Basil Champneys, architect, 1883, to contain the Archæological Collections, which have now been transferred to the New Museum of Archæology and Ethnology on the Downing site. The building is now occupied by the

FITZWILLIAM MUSEUM OF CLASSICAL ARCHÆOLOGY.

This Museum, really part of the Fitzwilliam Museum, contains casts of ancient sculptures, a Library, and a Lecture-room. The casts are arranged in six galleries, A to F, as follows:

A. (From door to central pillar): Archaic period—from the earliest times to the fifth century B.C.

B. (Turn sharp to right at central pillar): Fifth century, Peloponnesian.

C. (Central, entered from B, or from A, by passing central pillar): Fifth century, Attic.

D. (Left, entered from C): Age of Philip and Alexander, fourth century B.C.

E–F. (Left, entered from D): Hellenistic schools of Pergamon and Rhodes and the Græco-Roman period, with portrait statues and busts.

The LIBRARY contains the works on Art and Archæology bought under the Will of Lieut.-Colonel Leake; to which have been added about 800 volumes bought out of a subscription promoted by Professor Colvin in 1883; others, as required, are bought out of the Fitzwilliam Fund, or added by private gift.

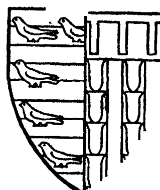
At the corner of Little S. Mary's Lane and Trumpington Street is EMMANUEL CHURCH, built by the Congregationalists in 1874. Opposite to this is

PEMBROKE COLLEGE,

founded 1346 by Marie de Saint Paul, widow of Aymer de Valence, Earl of Pembroke.

The Foundress lived for nearly thirty years after the foundation of the College, and it is probable that the whole of the original quadrangle was completed before her death.

The original façade extends from the corner of Pembroke Street to the south side of the gable containing a pointed window of three lights. The Chapel (at the corner of Pembroke Street) has been remodelled, and the whole façade was ashlared 1712, but with these exceptions it has been but little changed. Note the gate of entrance, a plain arch with a hoodmold, and a pair of oriel windows, separated by two coats-of-arms; the whole composition belonging to a period before gate-houses with flanking turrets had come into fashion.



ARMS OF PEMBROKE COLLEGE.

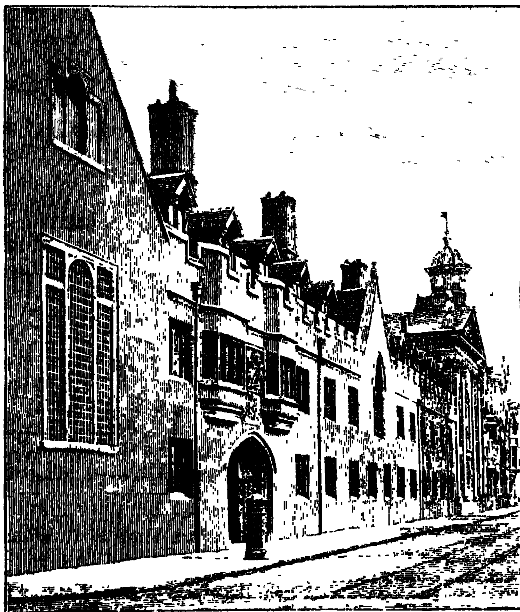
Enter the court, and note that the original chapel (the first collegiate chapel built, for which the Foundress obtained papal sanction 1355) stood at the N.W. corner (*left*); the vestry and bell-turret (still marked by a slit in the wall) were east of the chapel, and succeeded by chambers; the kitchen, butteries and Hall (over which was a Library built 1452) occupied the east side; the Combination Room with Master's Lodge above was in the angle between the east and south sides; the south and west sides were occupied by chambers. This primitive quadrangle was very small (95 feet long by 55 feet broad) but it sufficed for more than 250 years.

Enter the old chapel, fitted up as a library after the erection of Wren's chapel (see below), and as a lecture-room after the erection of the new library, 1875. Note the beautiful ceiling of plaster-work, with the date, 1690; and the bookcases of the same period, some of which still remain.

The south side of this court, with the Hall, Combination Room, and Master's Lodge, on the east side, were destroyed by the advice of Alfred Waterhouse, architect, 1874; and the present HALL was begun in the same year. Note in it the bust of PITT; GRAY, placed here by subscription, 1885; and Sir GEORGE GABRIEL STOKES, Bart. (1897), both by Hamo Thornycroft, R.A.

Pass through the Screens, and enter the Second Court. The range of chambers on the north side (*left*) was built about 1633, as was the eastern half of that on the south side (*right*), as far as the staircase nearest to the Hall. The rest of this range may be dated 1659, when the College was said to

flourish '*sub dispensacione Mosaicâ,*' *i.e.* the Mastership of Mr Serjeant Moses (1654-60). The two portions may be



PEMBROKE COLLEGE.

readily distinguished by their style. The latter building is usually called "The Hitcham Building" because built with funds derived from an estate at Framlingham in Suffolk, bequeathed by Sir Rob. Hitcham (1636).

Return to the First Court, and cross it to the new CHAPEL, built 1663-64 at the sole cost of Dr Matth. Wren, formerly fellow, then Bp of Ely, in fulfilment of a vow made during his imprisonment in the Tower of London. The architect was his nephew Sir Chr. Wren. It was lengthened by Sir G. G. Scott, 1880. Note the original woodwork, and the four splendid columns of Italian marble introduced by Scott.

On the completion of the Chapel (1664) it was connected with the College by a range of chambers and a cloister, consecrated for interments. The external face of this range was built in a style to correspond with the front of the old College, while the cloister was Italian, to correspond with the Chapel. This building, with the end of that destroyed by Waterhouse, was brought to its present aspect by Geo. G. Scott, M.A. (1881).

Beyond the Chapel, with a frontage to Trumpington Street, is the range of chambers designed by Waterhouse (1872), and, behind, the Library and Lecture Rooms, by the same (1875).

Leave the College by the gate of entrance, turn *right* down Pembroke Street, and passing the MASTER'S LODGE, designed by Waterhouse (1873), reach the SCOTT BUILDING, designed by G. G. Scott, M.A. (1883). It consists of two ranges of chambers, at right angles to each other. The bridge in front of the Master's Lodge, connecting the Ivy and New Courts, was erected in 1911 from the designs of Mr W.D. Caroë.

The poet SPENSER entered this College as a sizar in May 1569, and proceeded to the M.A. degree 1576. The poet GRAY resided here from 1756 to his death in 1771. He is believed, by tradition, to have occupied rooms on the first-floor in the Hitcham Building, in which he was succeeded by WILLIAM PITT (1773-80). The cause of Gray's removal to Pembroke is worth telling.

Gray came to Cambridge as a Fellow-Commoner of Peterhouse in 1742, and occupied rooms at the top of the building erected 1732. The window of his bedroom, on the side next the churchyard of S. Mary the Less, may still be distinguished from the others by irons fastened to the wall outside it. The poet had a morbid dread of fire, and had provided a rope-ladder with these irons to fix it to. Some undergraduates of Peterhouse, wishing to amuse themselves at his expense, placed a tub of water under the window, and then cried "Fire." Gray descended, and found himself in the tub. The punishment meted out to the offenders by the authorities of Peterhouse did not satisfy the poet, and he sought the hospitality of a college where, as he says, everybody was "as civil as they could be to Mary de Valence in person."

Nearly opposite to Pembroke College is the

UNIVERSITY PRINTING PRESS.

The erection of these buildings began 1804. In 1824 the Committee for erecting in London a statue to Mr Pitt offered

their surplus funds to the University "for the erection of a handsome building connected with the University Press...near or opposite to Pembroke College." This offer was accepted;



UNIVERSITY PRESS.

Mr Blore was appointed architect; and the first stone of the building forming the frontage to Trumpington Street was laid 18 October, 1831. Hence the whole building is often called THE PITT PRESS. Further additions have been made in subsequent years as required.

Visitors must be accompanied by a member of the Senate.

Opposite the Press, near the corner of Trumpington Street and Pembroke Street, must have stood TRUMPINGTON GATE, with, probably, a bridge over the King's Ditch, like Barnwell Gate in S. Andrew's Street. Visit next the

CHURCH OF S. BOTOLPH.

S. Botolph was the patron saint of wayfarers and beggars, and churches dedicated to him generally stood near the gates of cities.

The Church contains but little of interest. The pointed arches of the nave arcade may, by their style, belong to the first half of the fourteenth century; and the roofs of the nave

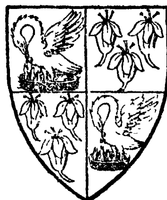
and chancel are perhaps of the same date. The aisles were rebuilt in the fifteenth century, to which date the porch and chapel next to it, with the chancel-screen, and the tower, may be referred. The west window of the latter was designed by Professor Willis (1841). The chancel was rebuilt by G. F. Bodley, architect, 1872. The south porch and chapel were restored in 1911, and a handsome porch door added.

Note the font and cover, of the sixteenth century; and, in the south chapel, the tomb of Tho. Plaifere, D.D., Lady Margaret's Professor of Divinity, d. 1609. On the tower is a sun-dial facing south and west. Adjoining this Church is

Corpus Christi College,

founded 1352 by the Gilds of Corpus Christi and S. Mary.

This College consists of two completely separate groups of building: (1) that of the gilds; (2) that designed by Wilkins, and erected 1823-27.



ARMS OF CORPUS CHRISTI COLLEGE.

The modern Court, entered from Trumpington Street through a gateway with flanking turrets imitated from those of the older colleges, has the Hall on the north side (*left*); the Chapel and the Master's Lodge on the east side; and the Library on the south side (*right*).

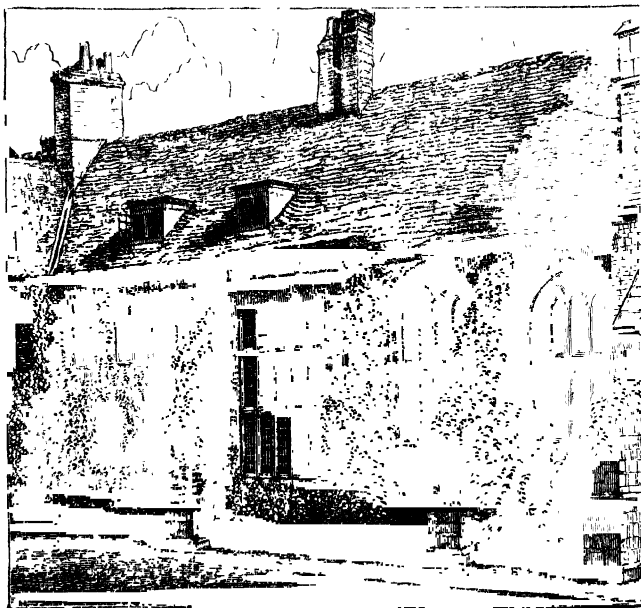
Pass through the passage at the east end of the Hall, and examine the old Court, the first closed quadrangle built in Cambridge. It has been a good deal altered, but it still retains a more ancient appearance than any other collegiate structure here. Note the eaves instead of battlements, and some of the original two-light windows. The buttresses were added after the first construction.

The original chambers in this court were of the roughest description, the ground-floor was of clay; the walls were destitute of plaster; and the windows were probably half-shuttered, half-glazed. On the first-floor they were open to the roof, like workshops. The garrets were added during the reign of Henry the Eighth.

The scholars used the neighbouring Church of S. Benedict for their devotions; but, with the exception of a chapel, this small court contained all the buildings required for the collegiate life: viz. chambers on the north, east, and west sides; and on the south, in the following order from west to east, Kitchen with Library over it, Buttery, Hall, Common Parlour, Master's Lodge above. The entrance was through a plain

archway on the north side, along a path skirting the west side of the churchyard.

When the new Court was built, the Kitchen and Buttery were pulled down, and the Hall fitted up as a kitchen. The oriel (see woodcut), quite different to that shown by Loggan (1688), was built at the end of the eighteenth century.



CORPUS CHRISTI COLLEGE: *Old Hall, and part of Old Court.*

The CHAPEL retains the stall work from the old one, which had been constructed by Sir Nich. Bacon, 1579. It was lengthened eastwards 1870, from the design of A. W. Blomfield, architect.

The LIBRARY, approached by a staircase at the east end, contains the unique collection of MSS. collected by Matth.

Parker, Archbp. of Canterbury, 1559—75. Some of the most interesting are exhibited in glazed cases.

In one of the rooms under the Library is the LEWIS COLLECTION of coins, gems, vases and other objects of antiquarian interest, bequeathed by the Rev. Sam. Savage Lewis, M.A., Fellow and Librarian[1].

From the College turn *right*, and then *right* again along Bene't Street, past the London County Westminster and Parr's Bank to the

CHURCH OF S. BENEDICT,

the oldest building in the town.·

· The parish is a very large one, and curiously scattered. Mr Atkinson suggests that "perhaps in early times it included a very large area, from which parts have been cut off and formed into new parishes, leaving others detached." The size of the parish, taken in conjunction with the architecture of the older part of the church, is in favour of Mr Freeman's theory that we have here the church of a separate village, when the town of Cambridge was confined to the district immediately surrounding the Castle.

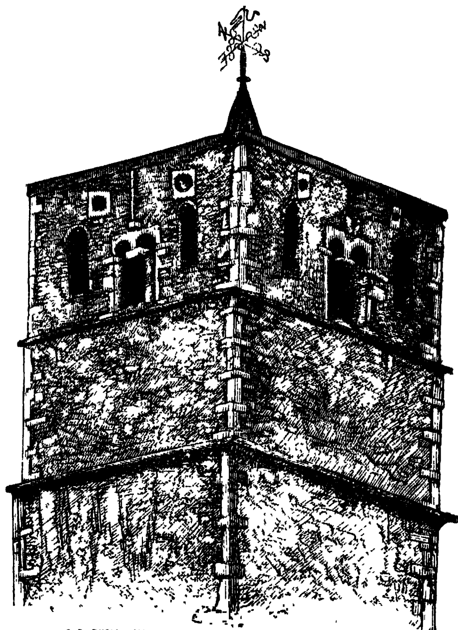
The tower, and those fragments of the original church which have survived numerous modern repairs and enlargements, are pre-Norman.

The tower is divided into three well-marked stages, each rather narrower than the one below it. The quoins are of "long-and-short work." The belfry windows are of two designs; the central window on each face is of two lights divided by a mid-wall baluster shaft, supporting a massive horizontal stone, reaching right through the wall. On each side of this window is a plain lancet at a somewhat higher level, with rubble jambs. Above each of these, with one exception, is a small block of stone pierced with a round hole. The tower was probably terminated originally by gables or a low spire. Note that the rough edges of the quoins are worked with a rebate to receive the rough-cast which originally covered the whole surface of the tower.

Enter the church, and note that the arch between the tower and the nave springs from bold imposts, above which are rude pieces of sculpture; and that on each side of the tower there are quoins which shew that the original nave was

[1] See *The Lewis Collection of Gems and Rings*: by J. H. Middleton, 8vo. Camb. 1892.

not wider than the tower. This nave was probably without aisles. Moreover at the east end there are similar quoins



TOWER OF S. BENEDICT'S CHURCH.

which shew that it was no longer than at present; and the chancel also is probably of the same size and shape as that of the early church.

The nave was pulled down in the thirteenth century, and rebuilt as at present with aisles. A new chancel-arch—not the present one, which is later—was built at the same time, and the bases of its piers are still visible above the floor. Below them are the piers of a still older arch; and in the side walls are fragments of arches which belong to some

arrangement of the east end anterior to that of the thirteenth century. The ruins of sedilia and piscina in the south wall are of the fourteenth century.

The north aisle was rebuilt and carried further west 1853; the south aisle, with the north and east walls of the chancel, and the chancel-arch, were rebuilt 1872.

Note in the south aisle a brass to commemorate Ri. Billingford, D.D., d. 1432. Near the west end of this aisle is preserved a large iron firehook, for dragging down blazing thatch. It formerly stood in the churchyard. In the north aisle is a glass case containing amongst other things two sets of chained bookcovers, the contents of which were long ago torn out, and no indication of their titles survives. The earlier may be dated about 1685, but the chains belong to a much earlier period.

In 1626 Thomas Hobson, the carrier, gave a large Bible. He was buried in the chancel 12 Jan. 1632. Fabian Steadman, the famous inventor of change-ringing, was clerk of this parish about 1650. He was a printer, and is said to have printed his changes on slips of paper and taught them to his company in S. Benedict's tower.

Go round the west end of the church and note the south door, as at S. Mary's the Less; and further on, the arched passage (vault now destroyed) that provided access to the church from the lane beyond. The building over this archway was built 1417–1515 to provide (1) a chapel on the first-floor where the services in the quire could be witnessed by members of Corpus Christi College, (2) a covered passage from the college to the church, as at Peterhouse. The doorway from the room under the above-mentioned chapel into the quire still exists, as does the staircase down to it from the gallery connecting the College with the chapel.

It is worth while to go round S. Benedict's Church into Free School Lane to see the east face of this curious gallery, and also to note the external walls of Corpus Christi College, built of uncoursed rubble. This is the oldest collegiate work in Cambridge, having been begun not later than 1352.

Returning to Bene't Street, and turning, *right*, we find, a few yards higher up, the entrance to

The Arts School (University Lecture Rooms).

These were built in 1910 to provide accommodation for History, Medieval and Modern Languages, Moral Sciences, and other Departments, for which the provision at the Divinity School and elsewhere had long been insufficient. The site is bounded on the east by the Examination School, on the south by the Museum of Mineralogy and the old Cavendish Laboratory,

on the north by Messrs Barclay and Co.'s Bank, and on the west by a courtyard at the back of the new Cavendish Laboratory. This courtyard is approached from Bene't Street and gives access to the main corridor of the building, which also leads to the Examination Rooms. A cross corridor is entered on the south side between the Museum of Mineralogy and the old Cavendish Laboratory. The chief room on the ground floor is a large Lecture Theatre, to hold about 300 students. It is lighted mainly from the top and has convenient arrangements for the lantern and for the display of diagrams. Four other Lecture Rooms are placed on the north and west sides, the largest of which will hold about 100 students. Room E is used by Indian Civil Service students, and contains a library of books bearing on the languages, laws and history of India.

The first floor contains several small Lecture Rooms and Class Rooms, and a large Common Room, looking south, for Professors and Lecturers. Lecture room F contains a collection of mathematical models. The Departmental Library is on the second floor and at present accommodates the Seeley Historical Library, the Medieval and Modern Languages Library, and the Moral Sciences and Economics Library. The Beit Library of German Books is in an adjacent room. Heating chamber and lavatories are placed in the Basement, in which a large space has been provided for storage: it is approached by a wide sloping way on the north side.

The building was designed by George Hubbard, F.S.A., Architect, and built by Mr Sindall of Cambridge. It is mainly in the style of the early part of the 18th century, but full advantage is taken of modern methods of construction: the steel girder which carries the two upper floors on the south side is probably the largest in Cambridge. The west front is of Weldon stone, the lasting qualities of which have been proved at King's College Chapel. The north front and the lower south front are mainly of red Stonecourt bricks, 2 in. only in thickness: wide unpointed mortar-joints are used. The site is contracted, and the building is hardly seen from the street, but the new rooms will be increasingly used by members of the University and it is well worth while to build them in a dignified manner.

During the progress of the work, considerable traces were found of the Augustinian Friary. Near the south entrance

was a barrel-vaulted chamber, which had recently been used by the Mineralogical Department. At its west end were a 13th century arch, and a doorway with spandrels dating from the 15th or the latter part of the 14th century. It is doubtful if either arch was *in situ*, but the stones were carefully preserved and re-erected in the Basement.

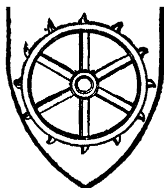
Return to Trumpington Street, cross it, and, passing (*right*) the *Bull Hotel*, visit

S. Catharine's College,

founded 1475 by Dr Rob. Wodelarke, third Provost of King's College.

Cross the Court and pass through the gate, into Queens' Lane, anciently Milne Street.

This street was one of the principal thoroughfares of Cambridge, leading from the two mills on Coe Fen (see below) across the site of King's College to what is now the entrance to the New Court of Trinity College, whence, under the name of S. Michael's Lane, it joined High Street. Several lanes ran from it to the different wharves on the river-bank, and in the opposite direction to High Street. It is now represented by Queens' Lane and Trinity Hall Lane.



ARMS OF S. CATHARINE'S COLLEGE.

Provost Wodelarke bought a small site facing Milne Street, in length equal to about two-thirds of the present front of the College; and extending in depth from the street to a line drawn across the court at a right angle from the west end of the Chapel to the opposite side. The buildings erected on this site, or on the first addition to it, have entirely disappeared, with the exception of the range of chambers at the north end, built 1634–36.

The rebuilding of the College was due to John Eachard, D.D., Master 1675–97. He built, partly out of his own purse, partly by subscription, the Hall, Buttery, west range, and south range as far as the Ramsden Building. Dr Eachard died in 1697, leaving the design half executed, for Loggan's print (1688) shews a complete quadrangle, the east side of which was to have contained the library.

The Chapel was built by subscription (1704); and about fifty years afterwards the building corresponding to it on the

opposite side of the court, out of funds bequeathed by Mrs Mary Ramsden. The architect was Ja. Essex. The original idea of a closed court seems to have been abandoned at this time, and instead the low wall and railings were set up, and the grove was planted.

A considerable part of the north-east portion of the site consisted of the house, stables, and yard of Thomas Hobson, the celebrated carrier. His house, which stood between the entrance to the College and the houses north of it, had a frontage of some sixty feet to the street, while the yard extended back as far as the west end of the Chapel.



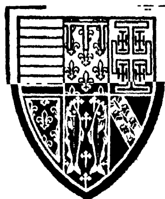
OLD HOUSES IN SILVER STREET, *now destroyed.*

Leaving the College by the grove, turn *right*, and then *right* again along Silver Street. At the corner of this street and Queens' Lane you pass the new Master's Lodge of S. Catharine's College, built 1875 from the design of W. M. Fawcett, M.A., architect. Opposite to this corner there stood, until recently, some picturesque old houses (see previous page); now replaced by modern shops. Visit next

QUEENS' COLLEGE,

founded on this site 1447 by Andrew Dokett, under the patronage of Margaret of Anjou, Queen of Henry the Sixth; refounded 1465 by Elizabeth Widvile, Queen of Edward the Fourth, who had been lady-in-waiting to Queen Margaret.

The first, or principal, Court was built immediately after the foundation. The first building-contract provides for the erection of the north and east sides of the quadrangle with part of the south side (note the seam in the brickwork where the first work ended); the second for the rest of the south side and the west side. The material is red brick; and the plan includes square corner-turrets, and an entrance-gateway flanked by towers (the third built in Cambridge). The original eaves were replaced by battlements, and the foliations cut out of the windows early in the nineteenth century. But the battlements have now been removed and tiles restored on the west and north sides (1909–10).



ARMS OF QUEENS' COLLEGE.

The OLD CHAPEL (at east end of north side of court) is now used as a Lecture-room and Library. The reredos was designed by Bodley, 1858.

West of the Chapel is the LIBRARY, now occupying both upper and lower floors. The original Library, on the first-floor, may be readily distinguished by its six equidistant windows. The bookcases are Jacobean, but beneath them may be detected the remains of the original desks, which had sloping tops, like an elongated church-lectern. In the windows is glass from the Carmelite Monastery, which stood on the north boundary.

The Sun-dial over the entrance to the old Chapel is often ascribed to Sir Isaac Newton: but it was painted after his death to replace one that had existed before he was born. The wooden turret for the clock put up in 1848 has been replaced by a clock-tower more in keeping with the buildings according to the design of Mr Hare (1910).

The classical woodwork in the HALL was put up under the direction of Sir Jas. Burrough, 1732–34, together with a flat ceiling and other changes popular at that time. These latter were removed, the original roof restored, the windows altered, and the fireplace opened, 1846–61, by Rob. Moon, M.A., Fellow. The decoration, by Bodley, was executed 1875, at the expense of Dr Campion and Rev. Geo. Pirie, M.A., Fellows.

Enter the second Court, or CLOISTER COURT. The range facing you, along the river, is nearly coeval with the first Court. Note that the two lateral cloisters are evidently later, for the plinth of the former building is continued behind them, and their arches are not bonded into it. Above the north cloister, occupying the whole side of the court, is the GALLERY of the President's Lodge, erected probably 1537.

Note that by the time this College was founded (164 years after Peterhouse and 102 years after Pembroke) the plan of a Manor House had been accepted as the best for College buildings. Accordingly this College affords a close copy of such a house as, for example, Haddon Hall. The arrangement of the principal court is the same; and in the second or subordinate court, approached by the passage through the Screens, we find the apartments of the President occupying the same position as those of the lord at Haddon.

As you look back on the Hall-range from the Cloister-court, note the projecting building at the north end of the Hall. A person entering this can either pass into the Hall, or into the COMBINATION ROOM north of it, or, by ascending the staircase, reach the President's original chamber over the Combination Room. From this chamber the President could pass into the Library, and from the Library into the Chapel; see and hear what was going forward in the Hall through a narrow window in his south wall; and command the principal Court by a window in the angle between the north and west ranges. About 1537, a Gallery was provided for his use, as at S. John's College. It is easy to see by the arrangement of the brackets, that it was built long after the cloister. By means of this Gallery the President could reach the building next the river, originally guest-rooms, now part of the Lodge.

The GALLERY is a singularly beautiful and little altered specimen of the domestic architecture of the sixteenth century. It was panelled by Humphrey Tindall, D.D. (President 1579–1614). The President's study has lately been panelled with the linen-panelling placed in the Hall in 1532, and turned out by Burrough. His dining-room, in the west building, has also some good Jacobean panel-work.

Cross the south cloister into the small PUMP COURT. The south and west sides are occupied by a building in white brick by Jas. Essex (1756); but on the east side you get a good view of part of the original buildings.

The turret at the south-west angle of the principal Court, adjoins the rooms in which, according to tradition, ERASMUS lived when here as Greek Professor (1510–13). The top storey of the turret, sometimes called Erasmus' Oratory, was occupied by his servant.

Leave the Cloister-court by the door in the north-east corner, and visit WALNUT-TREE COURT, north of the principal Court. Note as you enter the windows in the Library (*right*). They are unaltered, and shew the original design of the windows in the principal Court.

The range of chambers on the east side of this court (opposite to you as you enter) was built 1616–18. The date 1618 is on the street-front.

The NEW CHAPEL, on the north side of this court, was built by Messrs Bodley and Garner, 1891. Note the altar-piece, a work of 15th century German Art; the east window, and the windows in the north wall, all designed by Mr C. E. Kempe. The latter are intended to form a series illustrative of Church History, and also to commemorate certain notables of the College.

Beyond the Chapel is a range of buildings built 1886 from the design of W. M. Fawcett, M.A., architect. This building is known as the Friars' Building, as it occupied the site of the Carmelite Monastery sold to the College at the time of the Dissolution (1537–1544).

Between this range and the Chapel, following the north side of the site, is a block of buildings erected in 1912 from the designs of Mr Hare. In honour of the first President and real founder of the College this block is called the Dokett Building. A statue of Andrew Dokett has been inserted on the east front of the building.

Return to the Cloister-court, and passing out by the door in the centre of the west range cross the wooden bridge. The first bridge was designed 1749 by Mr Etheridge, and built by Jas. Essex. Turn *right* along the river-bank to the end of the walk. The views are extremely beautiful; especially,



QUEENS' COLLEGE: *River-front, looking south.*

as you return, those of the garden-front of the President's Lodge, and the river-front of the College.

As you leave the College grounds by the gate on the left bank of the river, note the bridge, built 1841, to supersede a picturesque structure of wood.

There were in ancient times two branches of the river Cam here (one of which is now carried underground), and the bridges over them were called THE SMALL BRIDGES, to distinguish them from the Great Bridge in Bridge Street. This name was applied to the single bridge for many years after its construction.

The MILL on the opposite side of the pool represents two ancient mills, called KING'S MILL and BISHOP'S MILL, to which led the street called Milne Street described above.

The ditch called King's Ditch left the river at this point, ran down Mill Lane, and Pembroke Street, and then crossed the site of the New Museums to S. Andrew's Church (p. 82).

Turn *right* along the road till you reach Sidgwick Avenue. Pass along this for a short distance, and you come (*left*) to

Ridley Hall,

founded 1879 by members of the Evangelical Party in the Church of England, with the object of providing a residence, and tuition in Theology, for graduates of the University who are candidates for Holy Orders.



RIDLEY HALL.

The first building was opened in January, 1881; a new

block was added, 1892; and at the same time a Chapel, the gift of an anonymous donor, who had formerly studied in the College. Note the memorial windows. The buildings were completed in 1912 by the addition of the block on the west side of the court. Turn *right*, having Ridley Hall on your right, and then *right* again to reach

NEWNHAM COLLEGE.

An *Association for Promoting the Higher Education of Women in Cambridge* was formed in October, 1873, to carry on and develop the



NEWNHAM COLLEGE.

Lectures for Women first started in January, 1870. Part of Newnham College was opened, under the care of Miss Clough, in October, 1875.

The east front of Newnham College, through which the visitor enters, was erected 1893, and is called the PFEIFFER BUILDING, to commemorate a gift of £5000 from the trustees of Mr and Mrs Pfeiffer. The bronze gates were presented as a memorial of Miss Clough, d. 1892, by students who had been in residence during her lifetime.

This building is connected by corridors with OLD HALL on the south, built 1875; and with SIDGWICK HALL or NORTH HALL, built 1880, on the north. Beyond the latter is CLOUGH HALL, built 1888. This Hall includes a dining-room large enough to contain, if necessary, the whole body of students.

Adjoining Clough Hall on the west is Kennedy Buildings, built in 1905, with rooms for some of the Fellows and Lecturers. A fourth Hall has now (1910) been built, along the Grange Road, at right angles to Kennedy Buildings. It is of about the same size as the others and encloses the College garden on the west side. On the south side of the garden is a large field, used for games. The new Hall is named after the late Dr PEILE, who was for many years President of the College. These buildings, though built at different times, and once separated by a public footpath (now closed), form a harmonious group. They accommodate the Principal, the Vice-Principals, resident Lecturers and Fellows, and about 210 students.

A commodious LIBRARY was built in 1897 at the sole charge of Mr and Mrs Henry Yates Thompson, and a new wing was added by them in 1907. The Library opens out of the passage connecting Clough and Sidgwick Halls, and is thus in a central position, readily approached from all parts of the College. The bookcases against the walls and projecting from them into the room are of solid oak, and a light gallery renders all books accessible without a ladder.

The whole College has been designed by Basil Champneys, architect.

At the corner of Sidgwick Avenue and Grange Road you come to

SELWYN COLLEGE,

founded 1882 in memory of Geo. Aug. Selwyn, D.D., Bp. of Lichfield and previously of New Zealand, d. 1878. It was incorporated by Royal

Charter, 12 September, 1882; and recognised by the Senate as a Public Hostel, 8 February, 1883. In the terms of its charter it was "founded and constituted with the special object and intent of providing persons desirous of academical education, and willing to live economically, with a College wherein sober living and high culture of the mind may be combined with Christian training, based upon the principles of the Church of England." Its undergraduates are preparing for the same careers as those of the other Colleges.

The range of chambers facing Grange Road, containing the gate of entrance, was finished 1882, with the Kitchens and a temporary Hall and Chapel. The west part of the north range, and the Master's Lodge in the south-east angle of the Court, were built 1884. The east half of the north range was added 1889. The Chapel was begun 1893, and opened 19th October, 1895. The architect of all these buildings was Sir A. W. Blomfield, and the style, not inappropriately, is a



SELWYN COLLEGE: THE CHAPEL.

modern version of the Tudor Gothic common in the buildings of the older Colleges. The woodwork in the Chapel, including the roof, is elaborate but good, and the windows (by Kempe) are very creditable examples of modern work.

The general scheme of the windows is the representation of the various divine gifts to men for the edification of the Church. The east window represents Christ enthroned as the Giver of gifts to men (Eph. iv. 8–12), with the Apostles. The names of the figures in the side windows are given in the glass. Each of the windows is a memorial, as an inscription on it states.

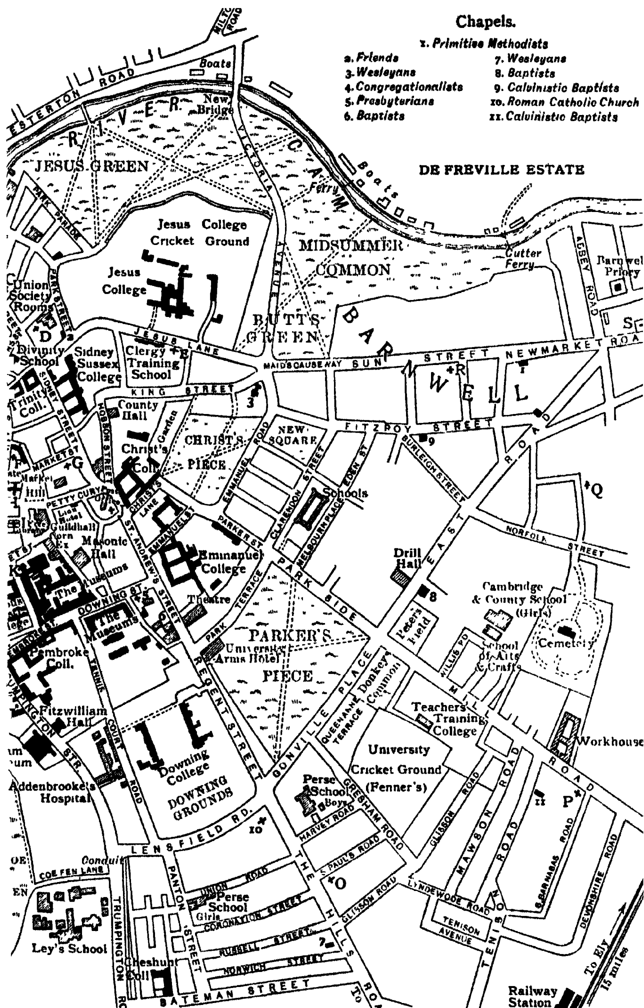
The greater part of the southern range was built in 1908–9, from the plans of Messrs Grayson and Ould, in a Jacobean style, but the lower storey of the middle portion, containing the kitchens, dates from the erection of the original buildings. This range contains the Hall, Combination Room, and various offices. The Hall is large and has a handsome roof of oak with modelled plaster panels. The very fine woodwork on the wall behind the dais was formerly in the English Church of St Mary, Rotterdam, where it was erected in 1708, possibly to a design by Wren. Among the portraits note the following:

Above the High Table: Bp. G. A. Selwyn: after G. Richmond.
Right: Hon. A. T. Lyttelton, first master, afterwards Bp. of Southampton, d. 1903: Furse.
J. R. Selwyn, son of Bp. G. A. Selwyn, sometime Bp. of Melanesia, afterwards master, d. 1898: Lowes Dickinson.
Left: W. E. Collins, Bp. of Gibraltar: Streatfield.

The whole of the buildings are in the traditional Cambridge materials—red brick and stone. They contain accommodation for 120 students. The court is one of the largest in Cambridge. The temporary building on the lawn was formerly the Chapel and now houses the Library.

Turn *right* along Grange Road. Opposite to the junction of this road with West Road is the RIFLE RANGE, belonging to the University Officers Training Corps.

From this point you can either turn down West Road, or proceed along Burrell's Walk to the Backs of the Colleges, whence you can choose various ways of returning to King's Parade or Trumpington Street.


Chapels.
1. Primitive Methodists
2. Friends
3. Wesleyans
4. Congregationalists
5. Presbyterians
6. Baptists
7. Wesleyans
8. Baptists
9. Calvinistic Baptists
10. Roman Catholic Church
11. Calvinistic Baptists
DE FREVILLE ESTATE
RIVER CAM
JESUS GREEN
Jesus College Cricket Ground
Jesus College
MIDSUMMER COMMON
BUTTS GREEN
BARNWELL
Barnwell Priory
Union Society Rooms
Divinity School
Sidney Sussex College
Clergy Training School
Trinity Coll.
County Hall
Christ's Coll.
CHRIST'S PIECE
NEW SQUARE
Schools
Drill Hall
Emmanuel College
Theatre
Masonic Hall
The Museums
PARKER'S PIECE
University Arms Hotel
Pembroke Coll.
Fitzwilliam Hall
Downing College
DOWNING GROUNDS
Addenbrooke's Hospital
Perse School Boys
Perse School Girls
University Cricket Ground (Fenner's)
Teachers' Training College
Cambridge & County School (Girls)
School of Arts & Crafts
Cemetery
Workhouse
Peter's Field
Donkey's Common
Ley's School
Cheshunt Coll.
Railway Station
To Ely 15 miles
Cutter Ferry
Ferry
New Bridge
Boats
Conduit
CHESTERTON ROAD
JESUS LANE
KING STREET
SUN STREET
NEWMARKET ROAD
FITZROY STREET
EAST ROAD
NORFOLK STREET
PARK SIDE
MILL ROAD
GONVILLE PLACE
REGENT STREET
LENSFIELD RD.
HILLS ROAD
TRUMPINGTON STREET
BATEMAN STREET
TENISON ROAD
MAWSON ROAD
DEVONSHIRE ROAD
GRESHAM ROAD
HARVEY ROAD
GLISSON ROAD
PANTON STREET
COE FEN LANE

Cavendish Lab. of Experimental Physics.

Chemistry.

Engineering.

,, Drawing Office, M.E. & Z., 7.

,, Electric Power Station, M.E. & Z., 1.

,, Workshop, M.E. & Z., 5.

Examination School (formerly Examination Rooms).

*Forestry.

*Geology (Sedgwick Museum).

Human Anatomy, H. A. & B. C. (ground and 1st floors).

Humphry Museum, Medicine and Surgery (1st floor, east).

*Law School and Squire Law Library.

Medicine and Surgery.

,, Pharmacology (ground and 1st floors, west).

,, Quick Lab. (ground floor, east).

,, Surgery (ground and 1st floors, west).

,, Humphry Museum (1st floor, east).

,, Pathology (2nd floor west).

Mineralogy.

Mineralogical Museum, M.E. & Z., 6 (1st floor).

Newton Library, M.E. & Z., 2 (2nd floor).

Philosophical Library, M.E. & Z., 4 (ground floor).

*Physiology.

*Psychology.

Quick Lab., Medicine and Surgery (ground floor, east).

Sedgwick Room, Zoological Lab., M.E. & Z., 6 (3rd floor).

*Squire Law Library, Law School.

Zoology and Comparative Anatomy.

,, Balfour and Newton Libraries, M.E. & Z., 2 (2nd floor).

,, Balfour Room, M.E. & Z., 3 (3rd floor).

,, Bird Room Z. & B. C. (top floor, west).

,, Comparative Anatomy Lecture Room, Z. & B. C. (groun floor, west).

,, Sedgwick Room, M.E. & Z., 6 (3rd floor).

Zoological Museum.

FOURTH WALK.

(See Plan, opposite.)

This part of our Guide will be devoted mainly to the

MUSEUMS OF SCIENCE.

As the visitor passes along Pembroke Street, he will see, on both sides of the street, a succession of lofty buildings. These are the museums, lecture-rooms, class-rooms, and work-rooms, belonging to the following departments, the names of which, for convenience sake, have been arranged in alphabetical order. They will be described below. For their relation to each other consult the plan.

AGRICULTURE
ARCHÆOLOGY AND ETHNOLOGY
BIO-CHEMISTRY
BOTANY
CHEMISTRY
ENGINEERING
EXAMINATION SCHOOL
EXPERIMENTAL PHYSICS (Cavendish Laboratory)
FORESTRY
GEOLOGY
HUMAN ANATOMY
LAW
MEDICINE AND SURGERY
MINERALOGY
PHILOSOPHICAL LIBRARY
PHYSIOLOGY
PSYCHOLOGY
ZOOLOGY AND COMPARATIVE ANATOMY

The site on the north side of the street is, in the main, that of the Augustinian Friary, the gate-house of which has been already mentioned. This ground was bought in 1760 by Ri. Walker, D.D., Vice-Master of Trinity College, and by him given to the University for a Botanic Garden. It served that purpose until 1852, when the plants were removed to a new garden (described p. 185). Dr Walker's garden had an open frontage to Downing Street, but on the east and west sides it was separated by the properties of various owners from Slaughter House Lane (now Corn Exchange Street) and from Free School Lane, but these properties, together with garden land on the north boundary belonging to the late Mr Mortlock, have since been acquired by the University. This part of the site is usually termed the Old Botanic Garden site.

Subsequently, in 1896 and 1897, the University bought from Downing College two acres and two-fifths of an acre, situated at the north end of their site, with the entire frontage from Tennis Court Road to Downing Place, and in 1902 the Senate agreed to purchase a still further six and a quarter acres.

The erection of Lecture-rooms on the Botanic Garden site dates from 1784, when it had become necessary to provide a lecture-room for the Professor of Botany and for the newly-appointed Jacksonian Professor of Natural Experimental Philosophy. It was then decided that "the piece of ground at the south-east corner of the Botanical Garden is a proper spot," and a lecture-room and two private rooms were built, and used by the two Professors above mentioned until 1863.

A building adjoining these rooms, in the angle of the ground between Downing Street and S. Andrew's Hill (formerly Hog Hill), was built for the Professor of Anatomy (1832–33); and at the same time some small accommodation for the Professors of Chemistry and Physic was added to the older building. This very inconvenient structure, with the building of 1784, was pulled down in 1900.

The establishment of a Natural Sciences Tripos (1848) drew the attention of the University to the immediate need of Museums, Laboratories, and Lecture-rooms on a totally different scale from that hitherto attempted; and the removal of the Botanic Garden (1852) suggested a site. The usual steps were taken; the usual opposition was offered; much time was wasted in overcoming it; and finally (1863) the central buildings were begun from designs drawn by A. Salvin, architect, but suggested and controlled by Rob. Willis, M.A., Jacksonian Professor. They were intended to accommodate Zoology, Botany, Mineralogy, Mechanism (then dealt with by the Jacksonian Professor); and the Lucasian, Lowndean, and Plumian Professors.

These buildings (occupied 1865) were fortunately constructed of a material and in a style which readily admitted of extension, addition, and alteration. In consequence space has been found for a central Library on the ground-floor of the south building (1880); Morphology has been accommodated by placing an additional floor upon the south and west buildings (1882–84); class-rooms intended for Physiology and Botany, but now used for other purposes, have been added to previously existing structures; and lastly, a drawing-office for the use of Mechanism has been built in the principal quadrangle.

The appointment of Mr Michael Foster to the post of Trinity Prælector in Physiology (1870) made provision for

the teaching of this science necessary. This was at first found in two rooms on the ground-floor of the central block (now the Library); but before long new buildings were begun (1876), in continuation of the east wing, for Physiology and Comparative Anatomy (Physiology being on the first floor); and subsequently enlarged (1890 91). These buildings are now devoted to the needs of the Departments of Zoology and Comparative Anatomy, Human Anatomy and Bio-chemistry, a new Physiological Laboratory having been erected on the Downing site.

In 1874 the Cavendish Laboratory was built and stocked with apparatus at the sole expense of William, 7th Duke of Devonshire, Chancellor of the University. This Laboratory has since been increased (1895) by the addition of rooms on the south of the entrance-gateway and (1908) by the addition of the new Rayleigh wing.

The new Chemical Laboratory, designed by J. J. Stevenson, architect, in accordance with the requirements of Professor Liveing, was built 1887-88. Extension added—opened Oct. 1909.

A Professorship of Mechanism having been established (1875), accommodation was found for the Professor and his class in the old Jacksonian rooms, and in temporary workshops constructed in the garden behind the old Department of Botany.

In 1893 a new Engineering Laboratory was begun, partly by adapting the old buildings of the Perse Grammar School (bought 1888), partly by the erection of a new building designed by W. C. Marshall, M.A., architect. It was formally opened 15 May, 1894.

In 1898, after the death of the well-known engineer, John Hopkinson, M.A., formerly Fellow of Trinity College, with his son, by an accident in the Alps, Mrs Hopkinson, in conjunction with her surviving son and daughter, offered £5000 to commemorate her husband and son by an extension of the Laboratory. This generous gift was accepted, and the *John Hopkinson Memorial Wing*, designed by the same architect, was formally opened 2 February, 1900.

In 1912 the Perse Headmaster's house, which had been left standing between the Cavendish and the Engineering Laboratories, was pulled down to make room for a new building, which brings the Departments of Physics and Engineering into contact.

New buildings for Human Anatomy, with a lecture-room common to that science and Physiology, were designed by W. M. Fawcett, M.A., architect, and built 1890–91.

In 1900 a Syndicate which had been appointed "to consider what steps should be taken for the erection of new buildings for the Medical School upon the site assigned for the purpose," issued a report (22 February), stating that they had considered the accommodation required for Medicine and Surgery, Pharmacology, Pathology, and Public Health; that they had consulted E. S. Prior, M.A. (Gonv. and Cai.), architect; and that they had obtained plans from him for a Museum which they recommended should be called *The Humphry Museum*, in commemoration of the services rendered to the University by the late Sir Geo. Murray Humphry, M.D., and for two ranges of building, one on each side of it. They were authorised by Grace (14 June, 1900) to obtain detailed plans and tenders for the Downing Street Wing; and (31 January, 1901) for the Museum. Leave had previously been given (6 December, 1900) to pull down the old buildings on the site. The tenders were accepted by Grace, 23 May, 1901, and the work was begun soon afterwards. Towards the cost of these buildings (besides special gifts in the Benefaction Fund) the State Medicine Syndicate contributed £2000; and, for the fittings in the Museum, Lady Humphry and others £350.

The Downing Street Wing and the Humphry Museum were formally opened by Their Majesties King Edward VII and Queen Alexandra, 1 March, 1904. The Corn Exchange Street Wing will be built so soon as funds are forthcoming.

The last buildings to be erected on the old Botanic Garden site, or rather on the site of Mr Mortlock's Garden, were the Examination School (1909) and the Arts School (New University Lecture Rooms), first used in the Lent Term, 1911.

The buildings on the Downing site are of recent date, the Sedgwick Museum of Geology, the Squire Law Library, the Law School, and the Botanical School being opened by King Edward VII and Queen Alexandra at the same time as the School of Medicine and Surgery.

Since then the New Museum of Archaeology and Ethnology (unfinished), the School of Agriculture (opened 26 April, 1910, by the Duke of Devonshire, and extended 1913), the Psychological Laboratory (opened 1913), the new Physiological

Laboratory (opened by H.R.H. Prince Arthur of Connaught, June 9, 1914), and the School of Forestry (originally housed in the new School of Agriculture, and still unfinished) have been erected. The site between the Physiological Laboratory and the Sedgwick Museum is reserved for the new Bio-chemical Laboratory.

This rapid sketch will give some idea of the way in which these buildings have been extended and developed.

OLD BOTANIC GARDEN SITE.

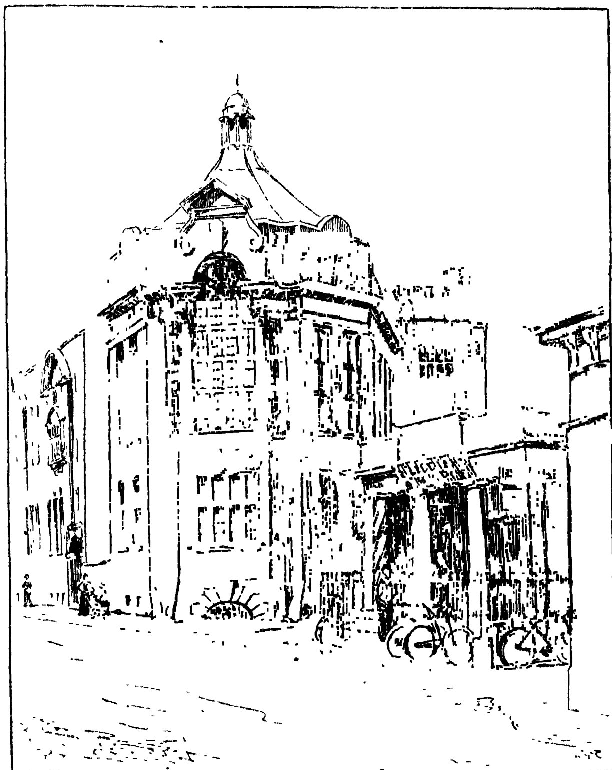
We will next describe the different Departments, supposing the visitor to have entered the grounds through the iron gates in Pembroke Street and to begin (*right* of the gate of entrance) with

MEDICINE AND SURGERY.

The New Medical Buildings (for history see above) afford accommodation for teaching and research-work in Pharmacology, Pathology, Surgery and Medicine—both curative and preventive. When completed they will be in the shape of an irregular L. One limb, with the main entrance, faces Downing Street; the other limb will face Corn Exchange Street. In the Downing Street Wing Pharmacology, Surgery, Medicine, Midwifery, Morbid Histology, Experimental Pathology, Hygiene and Medical Jurisprudence are accommodated. The greater part of the Pathological Department is not yet commenced, but awaits its housing in the Corn Exchange Wing.

The Museum, situated at the angle, and placed obliquely to the other wings, is 62 feet long, by 38 feet broad. Here the Humphry Collection is housed, which is well displayed in this convenient and well-lighted building. A collection of morbid specimens, prepared by Kaiserling's formalin method, are of interest and great beauty, as they retain their natural colouring. Below the main Museum there is a type-Museum, used at present for the temporary accommodation of the Quick Professor of Biology and his Research Students,

whilst the floor above is devoted to the storage of specimens that must be accessible to the student of Pathology. The



MEDICAL SCHOOL HUMPHRY MUSEUM, 1904.

large lecture-theatre accommodates about 200 students. It is entirely lighted and ventilated by artificial means.

Above this theatre is the Library, which may also serve for examinations; it is lighted from the roof. The book-cases are blocked in stacks on either side of the room, each separate case being moveable, and may be pulled forward to give access to the shelves.

In the basement are good workshops, store-rooms, combustion and other experimental rooms, photographic rooms, and accommodation for the engines, heating plant, and the electric lighting and ventilation installations.

On the ground-floor are provided experimental and research rooms, demonstration, preparation and work-rooms for Surgery, and private rooms for the Lecturers in Medicine, Surgery, Midwifery and Medical Jurisprudence, and for the accommodation of the R.A.M.C. unit of the C.U. Officers Training Corps. On the first-floor are work-rooms for Pharmacology and Pathology, a small well-lighted lecture-theatre, private rooms for the Regius Professor of Physic, the Downing Professor of Medicine, and the Professor of Surgery, and rooms for classes in Medicine and Surgery. Here also are excellent Pharmacological Laboratories, and a small Museum for the storage of specimens in Materia Medica. Two of these rooms are temporarily occupied by the Pathological Department until the Corn Exchange Street Wing is completed.

On the second-floor are the class-room for Morbid Histology, preparation room, rooms for experimental and clinical pathological work, rooms for the Professor and Demonstrator of Pathology, the Lecturer on Bacteriology and Preventive Medicine, and the John Lucas Walker Research Scholar.

In all the research rooms and practical class rooms hot and cold water, gas, and electric light have been laid on and arrangements have been made for the reception of "pressure" and "exhaust" pipes as soon as funds are available. The fittings in all the rooms are simple and inexpensive, but strong and well suited for the purpose for which they are designed.

Concrete floors have been used throughout, the paving being of wood block or granolithic cement, with glazed surface channels to take the waste immediately outside. All the supply pipes and electric wires are carried in covered chases and can be reached without breaking the walls or floors. The walls and ceilings are finished smooth in adamant cement, all

angles are rounded, the skirtings and cornices plain hollows. The doors and furniture are made plain and flat, with no mouldings or projections to "trap" dust. The window sashes, of cast-iron, are so divided that they afford proper light for microscope work, except in the smaller lecture-theatres and Museum, where a new form of lead glazing has been used.

These buildings are heated and ventilated by means of warmed or cooled air driven in on the Plenum system.

The part of the building not yet begun, but urgently needed, is designed to afford additional accommodation for Pathology and Physiological Chemistry. Hygiene also will be housed here until the University can afford to build an Institute of Hygiene.

The teachers of Clinical Medicine and Surgery give their instruction at Addenbrooke's Hospital, to which a small Clinical Laboratory under the charge of the Professor of Pathology has recently been added.

There are about 500 students preparing for Medical and Surgical Degrees, but the larger number of these carry on the later stages of their Clinical Studies in the London and Provincial Hospitals, returning to Cambridge for their final examinations. In each year there is an increasing number of medical students who stay in Cambridge for an extra term to study Pharmacology, Pathology, and the elementary methods employed in Medical and Surgical diagnosis, in order that they may early acquire a knowledge of scientific methods of investigation and treatment, and that they may be prepared to utilise to the full the large field for clinical observation offered to them in London and elsewhere.

THE PHILOSOPHICAL LIBRARY.

The care of the library of the Cambridge Philosophical Society was accepted by the University in 1881, and with the view of organising a public scientific library the books were transferred to the present building. By donations, exchange, and purchase the number of books has been largely increased, and the library has become to a great extent the scientific reference library of the University, and is rich in sets of Journals and scientific transactions. The Index List of Periodicals is published at 1s. by the University Library Syndicate. Current scientific journals and periodicals are displayed on the central tables.

ZOOLOGY AND COMPARATIVE ANATOMY.

The main entrance to the Department of Zoology is by the South door of the East building.

The ground-floor of this building (*right* of door) is occupied by store-rooms, work-rooms, and the private rooms of the superintendent, etc.; and (*left*), (1) private room of the Professor of Zoology.; (2) staircase leading to gallery of Museum of Zoology, the Bird Room, the Bio-chemical Laboratory, etc.; (3) Lecture-room.

Opposite to the latter is the door leading to the

MUSEUM OF ZOOLOGY

Principal room, ground-floor.

The collection of skeletons of Vertebrates was begun by Sir Busick Harwood, M.D., Professor of Anatomy (1785–1814); but it owes its present development to the exertions of Wm. Clark, M.D., Professor of Anatomy (1817–66), of Professor Newton, of J. W. Clark, M.A., Superintendent (1866–91), of Dr Harmer and Dr Doncaster. The bust of Professor Clark faces you as you enter.

The collection has very largely outgrown the space available for the exhibition of specimens; and many interesting and valuable series have to be kept in store rooms. The size and shape of the Museum galleries do not lend themselves to a complete zoological arrangement although efforts are made to attain to this as far as possible.

The following arrangement has been adopted.

At the entrance are placed two double-sided cases facing one another, containing in the inner sides the Insectivora, Lemurs, monkeys and apes. The outer sides of these cases contain on the left the Chiroptera, among them a representative series of English bats, on the right the Hyracoids which are placed here to front their nearest living representatives, the Elephants.

Running down the length of the museum on the left-hand side are cases devoted to the Rodents and Edentates facing inwards; the other sides of these cases contain the Monotremata and Marsupials.

At the left hand of the entrance a case is devoted to some specimens of the Cetacea or Whales in which animals the

museum is especially rich. The majority of specimens are suspended from the roof and galleries and attention is directed to the large skeleton of the Rorqual or Finwhale (*Balænoptera musculus*) from the English coast at Pevensey and the skeleton of a Narwhale (*Monodon monoceros*) showing the very rare feature of two equal tusks; a normal one-tusked skull is shown in the case. Attention is also called to a section of the aorta of a whale hanging at the end of the case showing the enormous size of this blood vessel.

At the further end of the room is a long case in which is placed a representative collection of skeletons and skulls of the Ungulata. At the left hand are placed the Perissodactyla or odd-toed Ungulates and facing the case are complete skeletons of the Horse (Przewalsky's horse), Tapir and White Rhinoceros. The right-hand side of this case contains the Artiodactyla or even-toed Ungulates faced by complete skeletons of members of this group among which may be noted a stuffed specimen and a skeleton of the Okapi. In the case is a fine lower jaw of the extinct Hippopotamus from Barrington, of which animal further remains are to be seen in the Geological Museum; above this specimen a skull of the small extinct pigmy form from Madagascar is placed for comparison. This section of the Ungulata is continued round the side of the museum by cases containing Antelopes and Oxen. An extremely fine and perfect skeleton of the Urus (*Bos primigenius*) dug up in the fens faces the last case.

The cases continuing along this side contain the Carnivora and opposite them is a rack on and under which are placed mounted skeletons. A good skeleton of the large sea elephant stands in the corner next to the elephant stand.

The Proboscidea and Sirenia occupy the right-hand corner of the museum by the entrance. Complete mounted skeletons of the African and Indian elephants are mounted on stands, and the adjoining case contains a number of fragments of extinct elephants and also specimens of Sirenia, including a good skull of the extinct Steller's Sea Cow (*Rhytina stelleri*).

In the centre of the hall is a mounted specimen of an Orang Utan on a nest of its own construction.

In the galleries around the central hall are series of Fishes, Amphibia and Reptilia, and the old anatomical collection derived in part from the collections of Sir Busick Harwood,

Dr Macartney, Professor of Anatomy, in Trinity College Dublin, Professor Schröder van der Kolk, of Utrecht, increased to some extent by more recent preparations made in the museum.

Among the Fishes are some fine specimens of *Lepidosiren paradoxa* collected in the Paraguayan Chaco by J. Graham Kerr, M.A., of Christ's College (now Professor of Natural History in the University of Glasgow).

The two side galleries contain the Invertebrate teaching collections, the larger proportion of the University collection, in which are many type specimens, being stored in cabinets in separate rooms.

The lower gallery is in part set aside as the Darwin Gallery in which exhibits are gradually being placed to illustrate the phenomena of heredity, coloration, dimorphism, etc.

Invertebrate Annexe.

The Invertebrate Annexe, on the east side of the principal room, has Molluscs and Tunicates on the ground-floor, and the rest of the Invertebrates in the gallery.

This part of the collection consists of:

1. Specimens selected as an educational series, including a number of preparations in spirit, exhibited by the Naples Zoological Station at the Fisheries Exhibition in London (1883) and bought by the University.

Note also (at north end of room) the beginning of an exhibited series of (A) Insects in general; (B) British Insects.

2. Special collections: principally of Mollusca and Foraminifera.

The Molluscan series includes the collections of S. P. Woodward, author of the *Manual of the Mollusca* (bought 1866); of Robert MacAndrew, F.R.S. (bequeathed 1873); and of Miss Jane Saul (bequeathed 1895); and contains numerous type-specimens or figured specimens.

No less interesting is the collection of Foraminifera, formed by Mr H. B. Brady, F.R.S., and bequeathed by him to the University. Besides a very large number of slides kept in cabinets, a fine selection of specimens, with illustrative figures, was arranged by Mr Brady himself shortly before his death, and is exhibited in the gallery.

The collection of Polyzoa (not exhibited) is based on the donations of Miss E. C. Jelly, author of the *Synonymic Catalogue of Marine Bryozoa*, but it includes numerous specimens received from other sources, notably from Dr Harmer.

The Insects (kept in the Curator's private room and not shewn to the general public) are comprised in the collections

of the Cambridge Philosophical Society (given to the University 1860); of the late G. R. Crotch, M.A., S. John's College; of Miss Walcott, and many others.

Bird Room.

In the Bird Room, on an upper floor, is lodged the Ornithological Museum. This originated with the general collection of the well-known zoologist William Swainson, containing most of the typical specimens described by him. Through the activity of the late Professor Sir George Paget it was secured for the University in 1840, and was at first placed together with a fine collection from Australia made by Capt. Blackwood, R.N., in an apartment of the Cockerell Building of the University Library, originally intended for a Zoological Museum; but, owing to the increase of the geological collections in the adjoining room, it was removed in 1855 by the then Vice-Chancellor (Dr Whewell) to the ground-floor of the Pitt Press, where it suffered much damage from damp. On the completion in 1865 of the new Museum of Zoology, both collections were placed in it; and immediately after, those possessed by the Philosophical Society, containing among others a nearly perfect series of "British Birds," were transferred to the same room. In 1867 the Museum received a great addition in the general collection of Hugh Edwin Strickland (containing more than 6000 specimens referable to 3000 species), a catalogue of which by the late O. Salvin, M.A., of Trinity Hall (the first Strickland Curator), was published in 1882; and another addition in 1869, by the deposit by the trustees of Prideaux John Selby (author of many works on Natural History) of his collection, which contains a long series of specimens obtained in South Africa by Sir Andrew Smith; while in 1870, the large collection formed in California and British Columbia by the late James Hepburn, of S. John's College, was presented by his devisees. The extensive series of specimens from Madagascar and the Mascarene Islands, collected by the late Sir Edward Newton, of Magdalene College, including the most perfect skeletons of the Dodo and of the Solitaire of Rodriguez to be seen in England, beside remains of many other extinct species, and a very considerable set of specimens of those which survive, has been added at various

times; as well as a large number illustrating the expiring faunas of New Zealand and the Sandwich Islands, the former chiefly through the kindness of Sir James Hector, Capt. Hutton, and Sir Walter Buller, the latter through the liberality of Mr Scott B. Wilson, late of Magdalene College, and of the Joint Committee of the Royal Society and the British Association for the Zoological exploration of that Archipelago. A considerable portion of the ornithological collections of Henry Guillemard, M.D., of Gonville and Caius College, including a fine series of Birds of Paradise, made during the voyage of the *Marchesa*, is also in the Museum.

The arrangement of the Bird Room requires some explanation. In the cases along the west and north walls is displayed the mounted series of "British Birds," while those in the middle and along the east wall of the room contain mounted specimens from the general collection, according to the taxonomic views of Dr Gadow, F.R.S. (the Strickland Curator); some cases being devoted to preparations illustrative of morphology. The cabinets underneath the glass cases contain the general collection of unmounted skins and skeletons; while in a compartment along the south wall is placed the Strickland collection of unmounted skins.

Zoological Laboratory.

In the autumn of 1875 Professor Newton put his private room at the disposal of F. M. Balfour, M.A., of Trinity College, and A. M. Marshall, M.A., of S. John's College, in order that they might give practical instruction in Comparative Anatomy. This room is now used for Advanced Zoology. In a year or two more space was required; and the Laboratory, which after the first year was conducted by Balfour alone, Marshall having left Cambridge, entered upon a series of removals, until at last it came to rest in the smaller of the two rooms into which it is now divided, that, namely, which occupies the upper floor of the central building towards Downing Street. The construction of this room for the special use of Mr Balfour was sanctioned by the Senate 11 May, 1882; on which day they also established a chair of Animal Morphology, of which he was the first

occupant, elected 31 May, 1882. Professor Balfour met his death by a fall in the Alps during the following summer, and did not see his room completed. It was first used in the Michaelmas Term, 1882.

This room, with the two adjacent private rooms, sufficed for the Zoological classes of the University until 1884; but in that year the establishment of the class in Elementary Biology, and the increase in the classes of Zoology, rendered necessary the erection of the large Laboratory above the Museum of Mineralogy. These rooms, at present used as the Advanced Laboratory, the Biological and the Zoological Laboratories, were then built, and of late years, in consequence of the increase in the number of zoological workers, several smaller rooms over part of the Department of Physiology and others from the old Botanical Laboratory have been annexed to the Zoological Laboratory, for purposes of research. The present Laboratory affords accommodation for about 150 students, and for about 15 persons engaged in zoological research.

After Balfour's death his Library was given to the Laboratory by his Executors. This was placed in a room on the floor below the main Laboratory, and is called the BALFOUR LIBRARY. Since its institution it has been maintained by the Zoological Department.

The Newton Library is approached through the Balfour Library.

The Laboratory contains a bronze bust of Balfour, by Hildebrandt of Florence, presented by J. W. Clark, M.A., Trinity College, and Professor Darwin.

INSTITUTE FOR STUDY AND RESEARCH IN GENETICS.

An important institute has recently been founded on Storey's Way for study and research in Genetics; it consists of professor's house, laboratory, and garden, and is under the direction of the Arthur Balfour Professor of Genetics.

BIO-CHEMISTRY.

The Department of Bio-chemistry, as will be seen by the plan, is housed in two buildings, and is best approached through the archway in Corn Exchange Street. Immediately after entering the archway a door is found upon the left.

This opens upon a stone staircase which leads to the laboratories.

On the first floor a long room with a gallery, found upon the left immediately after entering, is devoted to advanced teaching. Next to this is a room, shared by advanced students and research workers, containing such forms of apparatus as need to be permanently kept in action. On passing through this room the research department is entered. It contains eight separate rooms each equipped for chemical work. The Professor's room is at the far end of the series, and next to it is a small library partly used as an office. One room is devoted to botanical chemistry and is frequently used by the Reader in Botany. Connected with the research department is a dark room for spectroscopic and polarimetric work.

On the way to the second floor the entrance to a large laboratory will be found half way up the stairs on the right. This large room, together with the gallery which surrounds it, is devoted to elementary teaching. It accommodates eighty students and is well equipped for practical class work. A spiral stairway leads from this room into a second laboratory also fitted up for chemical work. The elementary classes may sometimes extend into this smaller room, but it is also used for special teaching.

A subsidiary part of the department is found on the opposite side of the Corn Exchange Street archway. Here is a workshop, and under it a "hot room" for the cultivation of bacteria and for work on a large scale with digestive and other ferments. Beyond the workshop are two other rooms, at present used for the study of bacteriological chemistry.

The department teaches the chemical side of animal physiology to students of medicine, and in this connection is in close touch with the department of physiology. The teaching of more general aspects of bio-chemistry has begun and will be extended in the near future. Advanced Students who wish to carry out researches involving the application of chemical methods to biological problems are accommodated without fees, and so far as possible are supplied with the reagents and apparatus necessary for their work.

Human Anatomy.

This Department can be entered either directly from the Court, or from the Lecture-theatre.

The ground-floor of the Department of Human Anatomy contains store-rooms, preparation rooms, and the private room of the Professor.

On the first-floor is the Museum, 75 feet long by 60 feet broad, chiefly occupied by the large collection of crania of the different Races of Man. The number of skulls in this collection at present exceeds 4000. Note, *right* of entrance, the British series, including the collection made by Dr Thurnam, in which are many of the type-specimens described in *Crania Britannica*. There is also a large series of Ancient British skulls from a burying-place of the Iceni near Brandon, as well as other important series of Roman, Anglian, Saxon and Medieval crania. In the middle of the room is a long case running E. and W., containing skeletons illustrative of the osteology of the races of man; and beside this are four large cases containing the foreign series of crania. The most noteworthy portions of this are the Cooper collection of ornamental crania from New Britain; the Willey collection of Melanesian crania from New Britain; the Flinders Petrie series of Egyptian skulls of the fifth and eighteenth dynasties, of the period of the Ptolemies, and of the early Christian period; the Budge collection of Egyptian skulls of the twelfth, eighteenth, and twenty-first dynasties: and the Green collection of modern Egyptian crania. The Egyptian collection numbers altogether more than 1500 specimens. There is also an interesting series from the N.-W. Provinces of India, presented by Prof. Sir R. Havelock Charles; from N.-W. America, collected by Mr Hepburn; and from Peru, collected by Consul Hutchinson.

In the other cases are specimens illustrating variations in human osteology; and in an annexe are models used for teaching-purposes. On the same landing is the Anthropological Laboratory.

On the second-floor is the Histological Laboratory and the Gallery of the Museum, in which are numerous dissections and preparations illustrative of visceral anatomy, including the dissections by Dr Lee of the nerves of the heart. In the

annexe to the Gallery is a collection of human bones mounted and displayed for teaching-purposes.

On the third-floor is the Dissecting-room, a spacious apartment fitted with electric light and capable of accommodating 250 students.

EXAMINATION SCHOOL.

The Examination School, built in 1909, from plans by Wm. C. Marshall, M.A., is entered from the North East Court of the Museums. The main approach is by passing through the archway in Pembroke Street, opposite Tennis Court Road, crossing the quadrangle and going through a second archway directly in front. The Examination School will then be seen facing the visitor. It consists of two rooms, the largest measuring 106 ft. long by 50 ft. wide and 30 ft. high, and provides accommodation for the examination of nearly 500 students at one time.

In the Easter term, when of course the pressure is most severe, examinations are also held in the Senate House, and other rooms belonging to the University, and in addition the Guildhall is or used to be hired from the town.

Great attention was paid by those responsible for the arrangements of the hall to the lighting and ventilation. The hall is ventilated by means of two fans, each 5 feet in diameter driven by electricity, one fan forcing air into the hall through the slatted openings on each side and the other for drawing air out of it, on the other side.

MINERALOGY.

Beginning at the further end of the Museum, a small case in the East window contains a valuable collection of Meteorites.

On the end wall is a glazed case, containing a series of polished agates, serpentines, and ornamental stones, together with a number of other specimens remarkable for size and beauty. Note in the first compartment some slabs of Labradorite, and implements made of New Zealand Jade; a large transparent cleavage-flake from a twin crystal of Gypsum is a prominent feature of the third; while further on is a suite of fine green and purple crystals of Fluor Spar.

The general collection, which the University owes largely to the munificence of many individual benefactors, contains specimens formerly in the possession of Dr Clarke and Dr Wollaston, Messrs Warburton, Forbes-Young, and Sir Abraham Hume. The collection belonging to the latter, presented in 1841 by Viscount Alford, was catalogued upwards of a century ago by Count Bournon, and the manuscript is preserved in the Museum. A fine series of zeolites from Iceland was presented by the late Mr J. W. Clark. Recent discoveries are well represented in a very large and valuable collection presented to the University by the Rev. T. Wiltshire, Hon. Sc.D.; while Cornish minerals form the distinctive feature of the Carne collection from Penzance purchased by subscription in 1899.

The minerals are arranged according to their chemical composition, but the order in which they are placed is liable to alteration.

In the first table case may be noted groups of Stibnite from Japan and good crystals of Galena and Blende, including fine specimens of the latter mineral from the Binnenthal. The rest of the Sulphides will be found in case II. Among them are typical specimens of Chalcopyrite, Bournonite and Fahlerz from Cornwall, and a unique twin of Mispickel from the same district.

The Fluors (case III) are a fine series, British localities being well represented. In the same case are the rare oxychlorides, Matlockite and Mendipite; and on the other side are exhibited many well-developed crystals of quartz, as also specimens of amethyst, jasper, opal, etc. Passing by Hematite, Corundum (with its two varieties Ruby and Sapphire), the Spinels, Magnetite and Chrysoberyl, we reach Cassiterite or Tinstone, the specimens of which from Cornwall are specially good.

The numerous varieties of Calcite occupy the whole of case VI; the Cumberland, Dauphiné and Hartz specimens are interesting. Note also the Chalybite from Cornwall, the Sicilian Aragonite, and the beautiful groups of Azurite, which, with the rest of the Carbonates, are to be found in case VII.

Case VII also contains fine specimens of Apatite, Pyromorphite and Mimetite, while many of the rarer Cornish minerals, such as Liroconite and Ludlamite, are well represented among the phosphates and arsenates in the next two cases.

The small covered wall-case at the North end of this room contains a large series of Redruthites, which are liable to alteration when exposed to light; the larger one a large series of Pseudomorphs.

The crystallography of the Felspars is illustrated in the wall-case in the next room by an exceptionally fine series of specimens. This case also contains many Pyroxenes and Beryl, amongst which attention may be directed to a fine crystal on the matrix from the Mourne Mts., Co. Down.

In the next table case are the Amphiboles, Garnets and kindred silicates.

The Topazes, Axinites, Euclases, the Apophyllite from India and some of the Zeolites in tables XIII and XIV are also worthy of attention.

The remaining cases are devoted to the sulphates and elements; the former are chiefly represented by Barytes from Cumberland, Celestine from Sicily and Gloucestershire, and by many good crystals of Gypsum. Among the elements we may notice a diamond on the matrix from Kimberley. In the same case are placed numerous crystals of Gold. The wall-case contains the rest of the elements.

In this room are placed two cabinets containing the Brooke collection, remarkable for the perfection of its specimens: it afforded the late Professor Miller material for many of his researches.

Adjoining the Museum are the private rooms of the Professor, a lecture-room, etc. On the ground floor are laboratories and demonstration-rooms.

Cavendish Laboratory of Experimental Physics.

The older part (1874) of the Laboratory is that to the north of the entrance in Free School Lane, a new wing being added to this part in 1908.

The basement contains the workshops and the battery-room. Special care is taken to make the workshops as efficient as possible, as in a laboratory where original research is carried on it is important to have the means of making apparatus in the laboratory itself. Several rooms used by those engaged in original research are also on this floor.

As you ascend the staircase note the portrait of his Grace the Duke of Devonshire, donor of the Laboratory, by Miss Humphry, after Watts. This picture was formerly at



CAVENDISH LABORATORY.

Cavendish College, and when that institution was closed was presented by the Trustees to the Laboratory. Near to this hang the portraits of J. Clerk Maxwell, M.A., first

Cavendish Professor of Experimental Physics, by Mrs Blackburne, and of Sir J. J. Thomson (Professor 1884–1919), by A. Hacker. Here are also photographs of Henry Cavendish, Lord Kelvin, Lord Rayleigh, Sir George Stokes, and the certificate of the Volta prize awarded to Clerk Maxwell.

The first-floor contains two large lecture-rooms, with rooms adjoining for the preparation of lecture experiments, rooms in which demonstrations for students preparing for the first part of the Natural Sciences Tripos are held, a library, and an apparatus-room. The apparatus includes many pieces of historical interest; among which may be mentioned Maxwell's original model of the dynamical top, his model to illustrate the induction of electric currents, his model of Saturn's rings, the coil which he used to determine the absolute measure of the resistance of the Ohm*, as well as the larger coil used by Lord Rayleigh and Mrs Sidgwick for the same purpose; a portion of Babbage's calculating machine; the system of levers used by Wollaston to solidify platinum dust; and an old Italian thermometer, presented by Babbage.

On the second-floor there is a large room used for demonstrations to advanced students, a dark room for photography, and a number of small rooms used by students doing original research.

The part of the Laboratory, on the south side of the entrance from Free School Lane, was built in 1895 and contains a large room used for demonstrations to medical students, underground rooms for experiments requiring a constant temperature, a small lecture-room, and the Professor's private room.

On leaving the Cavendish Laboratory, turn to the left along Free School Lane (so called because the Free Grammar School, erected from Funds bequeathed by Dr Perse, originally stood in it) until you reach the department of

MECHANISM AND ENGINEERING.

This Laboratory was opened in 1894, to meet the requirements of students taking the then newly-established Mechanical Sciences Tripos. The University Workshops, which adjoin the Laboratory, were purchased by the University in 1886. The cost of building the new Laboratory was

* Exhibited on loan at the South Kensington Museum.

in great part met by public subscription, which included a gift of £1000 from the late Chancellor, the Duke of Devonshire, and many of the more expensive pieces of plant have been gifts. In 1900 the north wing was added in memory of the late Dr John Hopkinson, of Trinity College, at a cost of £5000, the gift of his widow and family. Further extensions, comprising a new drawing-office, lecture-theatre, and mechanical laboratory, were opened in October, 1903. These extensions were rendered possible by the removal of Botany to the Downing site (see below). In 1912 the Laboratory was further enlarged by the erection of a four-storied building for the Electrical Laboratory.

During recent years the number of students attending the Engineering department has rapidly increased; the number before the war was about 300. The teaching is carried on by the Professor, two Lecturers and about a dozen Demonstrators, with workshop-instructors in carpentry, pattern-making, fitting, and forging. Lectures are given on the subjects of the Mechanical Sciences Tripos, namely, Applied Mechanics, Strength of Materials and Theory of Structures, Heat and Heat-Engines, Applied Electricity; along with practical work in Mechanics and Elasticity, Heat, Surveying, Drawing, Mechanics, and Electricity.

The rooms now in use comprise, in addition to two large lecture-theatres and a number of class-rooms:

(1) The Steam Laboratory, which is furnished with a number of steam-engines of different types arranged for experimental use, air-engines, gas-engines, oil-engines, including a Diesel engine, a Parsons and a Laval turbine and a refrigerating machine.

(2) The boiler house, with three steam-boilers for the supply of the experimental engines.

(3) The Elasticity Laboratory, which contains a 50-ton testing machine and other smaller machines for testing the strength of the materials used in Engineering construction, many appliances for measurements of Elasticity, and a set of tanks, turbines, pumps, and apparatus for Hydraulic experiments.

(4) The microstructure Laboratory equipped for tests on the heat treatment and structure of steel.

(5) The Electrical Laboratories, furnished with numerous dynamos, motors and appliances for practical electrical tests and measurements. Much of the electrical plant has been presented by various electrical engineering firms.

(6) The Museum, containing a number of models of mechanical motions, most of which were designed and constructed by the late Professor Willis, whose *Elements of Mechanism* was one of the earliest works treating of this subject.

(7) The Drawing Office, where instruction is given in engineering, drawing, and design.

The workshops contain a large number of screw-cutting lathes and other machine tools. The ground-floor is used for turning and fitting, forging, and instrument-making; the upper floor for carpentry and pattern-making.

On leaving the Engineering Laboratory turn left along Free School Lane, and again left along Pembroke Street, until you reach the

CHEMICAL LABORATORY.

The architect of this Laboratory was compelled to work under two conditions: (1) that nothing which was needful to render the interior as well fitted as possible for the special use for which it was intended should be sacrificed to architectural effect: (2) that his building should not interfere with the ancient lights of the neighbours. These conditions will account for the plainness of the style and the irregularity in the height of the different parts.

The material is Ancaster stone, or red brick with Ancaster stone dressings.

On entering the principal building from Pembroke Street you ascend a short flight of steps to a vestibule with marble columns, and a floor paved with tesseræ—the only attempt at ornamentation in the whole building. Note the glass cases containing specimens illustrative of the metallurgy of iron, steel, lead, etc. Entered from this vestibule are two small lecture-rooms (*left*), and the suite of elementary laboratories (*right*). These latter consist of three large rooms communicating with one another:

1. The largest and most northerly, accessible by a separate entrance at that end, is 62 feet long by 45 feet wide, and contains benches for 84 students. Most of these divide their time between chemistry and physics, and the same bench is occupied by two students coming on alternate

days, so that the accommodation is practically sufficient for 168. The cupboards and drawers at each bench are in duplicate, so that every student can lock up his own preparations. This room is used mainly for qualitative analysis.

At the north-west corner is a small octagonal room with windows on seven sides, so that a thorough draught can always be had, no matter what wind is blowing. It is intended for work with such choking chemicals as chlorine and bromine. In it the operator can always get to windward of the fumes.

2. The middle room of the suite, intended for the making of gases, accommodates 24 students at least.

3. The elementary quantitative laboratory, with benches for 38 students. It is connected by a lobby with the balance-room.

The ventilation of these rooms is effected by the tall chimney-shaft, 100 feet high and 6 feet square in internal section.

Return to the Hall and visit the two lecture-rooms (*left*). Each will seat 70 persons. Behind them are the preparation-room, and the specimen room; and beyond these again a third lecture-room forming the main part of the building, of less height, on the left of the street elevation. It seats 250 persons. This room has a separate entrance from Pembroke Street, and also from the yard behind.

Return again to the Hall, and ascend the staircase. In the mezzanine is a room used as an office, over the balance-room, and also the Professor's private room. On the first-floor are laboratories for 20 advanced students, over the elementary laboratories (2), (3), on the floor below. Also over the largest elementary laboratory (1) is the laboratory for students in public health and hygienic chemistry. This room accommodates 32 students. On this level are also a research laboratory for organic chemistry; a lecture-room; and the private room of the Jacksonian professor. Other rooms, at a higher level, are used for special research, as a library, and as dwelling-rooms for two assistants and a housekeeper. Here, too, space is found for mounting one of Rowland's large concave gratings of 21 feet focal length, for spectroscopic work.

In the basement are boilers which supply steam for heating the whole building, and for two small engines which drive the dynamo, air-pumps and other machinery; also laboratories for

metallurgical chemistry and assaying, and for agricultural chemistry, and various store-rooms.

DOWNING SITE.

Go back to Pembroke Street passing under the archway opposite Tennis Court Road and visit the buildings on the Downing site. To reach these turn to the left along Downing Street, until you are opposite to the SQUIRE LAW LIBRARY, easily recognised by five lofty windows. Beneath this Library three round arches give access to the quadrangle. Turn to the right on entering, and visit first

THE SQUIRE LAW LIBRARY, AND LAW SCHOOL.

The public teaching of law was carried on in this University from the most ancient times in what is still called The Schools Quadrangle (University Library). On the ground-floor of the south side were the original Schools of Law (probably Civil Law and Canon Law); and there the School of Civil Law remained when a new School of Canon Law had been built, about 1470, on the west side of the quadrangle. The study of Canon Law was forbidden by King Henry VIII in 1535: but to Civil Law he assigned a Readership in 1540. In the course of the last century the more obviously useful subjects of English Law and International Law were added to Civil Law, as part of the recognised course of study for University Degrees but the latter is still "read" by its Regius Professor, and, in all probability, will always retain its position as part of the liberal education desirable for a high class lawyer. Further, the oral instruction of former times has been greatly improved and extended by the appointments of a Downing Professor of the Laws of England, a Whewell Professor of International Law, a Reader in English Law, and a number of able College lecturers.

This increase in the number of teachers has, of course, been correlated with a corresponding increase in the number of pupils; and not only would the old School have become wholly inadequate, even if it had not been required for the University Library, but there was no space in or near it for a special legal library, suitable to the enlarged requirements of the Legal Faculty.

Several efforts to obtain a central site for a new Law School were made, but without success; and when part of the Downing site was offered, it was decided to accept it, notwithstanding the incongruity of placing Law side by side with Science. Many distinguished lawyers offered help, and rather more than £2000 was received, with which sum, joined to what the University could afford, a building of modest dimensions and unpretending character was projected.

While this scheme was being debated, the University received a munificent bequest from Miss Rebecca Flower Squire. By her Will ample funds were left to the University for the foundation of Scholarships in Law, and for the provision of a Law Library, with furniture and books for the same.



SQUIRE LAW LIBRARY, 1904

The University, thus relieved from the expense of providing a Library, was enabled to meet the other requirements of the legal Faculty, and to build a spacious Law School, so arranged as to be obviously distinct from the Squire Library, but to be approached by an external staircase belonging to the latter, and erected out of Miss Squire's bequest.

The Squire Library, with the adjoining Law School, was designed by Sir T. G. Jackson, R.A., architect, who is also the architect of the adjoining Sedgwick Museum. The Library, with its three archways, forms an imposing centre to the façade of the new quadrangle.

The main repository for books is a lofty room measuring 85 feet long by 32 feet broad, with cases projecting between the windows at right angles to the walls, and galleries at each end. An upper storey, with a height, in the centre, of 14 feet, will serve to contain duplicates, and, on occasion, may be used for purposes of examination.

Note, on the street façade, a tablet bearing the arms granted to "The Lawe Reader" in 1590; and over the door by which the staircase is entered, a noble figure of Justice, by Mr Pegram, A.R.A., with the mottoes *Justitia elevat gentem*, and *Discite justitiam moniti.*

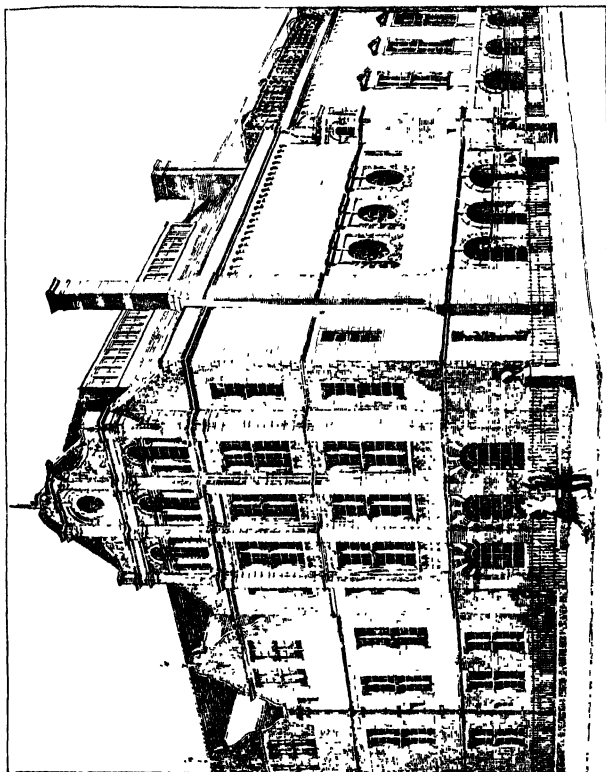
THE NEW MUSEUM OF ARCHÆOLOGY AND ETHNOLOGY.

As far back as 1897 the University, realising the growing needs of the Department, assigned to this Museum this excellent site. An architect was then appointed and sketch plans obtained, but for want of funds the University was unable to carry out the building scheme. In 1905 a Building Fund was opened and an appeal circulated, as the result of which over £25,000 has now been collected by donation and bequest almost entirely due to the ceaseless and patriotic efforts of Baron von Hügel.

The erection of the first Block of the New Museum at a cost of £12,500 was thus rendered possible: building operations began in the early part of 1910, the foundation stone being laid by the Baroness Anatole von Hügel, wife of the Curator, on May 14th. The entire cost with furniture and fittings will amount to at least £40,000; but the need for extended accommodation has become so urgent that the building is being erected in sections, as the sum required for each is obtained.

The architect of the new Museum was Sir Thomas Graham Jackson, Bt., who was also responsible for the Sedgwick Museum and the Squire Law Library, and this new work harmonises very well with the old. The first Block provides

the necessary work-rooms, show-rooms, rooms for the Staff, a temporary library, a lecture Room, and a lofty exhibition hall with a spacious gallery, known respectively as the Maudslay



FIRST BLOCK OF THE MUSEUM OF ARCHÆOLOGY AND ETHNOLOGY

Hall and the Andrews Gallery. The second Block provides so far—three main galleries, named in memory of munificent donors—the Keyser, the Babington and the Bevan Galleries.

This has practically exhausted the present funds. Space for the proper accommodation of the entire collection, including the Foster Bequest, as well as the Library, Lecture Hall and Students' Rooms, will only be found when the necessary funds have been raised by public subscription for the erection of the remainder of the building.

The whole building, when finished, will complete the first court of these new Museums and Schools.

The Museum practically derives its existence from the Cambridge Antiquarian Society, which, since its foundation in 1840, has realised the importance of securing such antiquities as may be found in the neighbourhood, and of forming an archæological library. The collections thus brought together were offered by the Society to the University, when the erection of a Museum of Archæology was in contemplation, on condition that they should be adequately housed, and recognised under the name of "The Cambridge Antiquarian Museum and Library." This offer was accepted in 1883, and the Museum was formally opened on May 6, 1884. The Society's gift included a large collection of stone and bronze implements, fine examples of Roman and Saxon personal ornaments, implements and weapons, as well as the following distinct collections: (1) the fine series of Roman pottery (cinerary urns, jugs, drinking cups, culinary vessels, etc.), found at Litlington, Cambridgeshire, in 1821 by the late Rev. William Webb, D.D., Master of Clare College (1815–56); (2) the beautiful Roman glass, bronze, etc. from Shefford, Bedfordshire, acquired 1826–1832 by the late Mr Thomas Inskip of that town; (3) a collection of Roman and Late Celtic pottery from Water Newton, Huntingdonshire, formed by the late Rev. R. Knipe, Vicar of Water Newton, about 1861; and (4) a collection of miscellaneous antiquities, chiefly local, formed by the late Mr I. Deck of Cambridge.

Since the opening of the Museum there has been a great increase in the antiquarian collections, largely due to the subscriptions of the Society and of private donors to the Museum Accessions Fund.

Among the most noteworthy of these accessions are: (1) a series of casts and photographs of sculptures taken in the forest-buried cities of Guatemala, by the donor A. P. Maudslay, M.A., Trinity Hall; (2) a collection of Roman antiquities, including some fine glass and sculptured stone, from France and Italy, presented by J. Barratt, Esq., M.D.; (3) a large series of Roman antiquities (chiefly pottery) found at Great Chesterford, Essex, and other localities, 1878–1881, by the donors Professor Hughes, F.R.S., and F. J. H. Jenkinson, M.A., Trinity College; (4) a remarkable series of cinerary urns and food-vessels (many richly decorated), personal ornaments of bronze, glass, amber, etc., iron weapons and implements, from a Saxon burial-ground near St John's College, excavated in 1888 under the supervision of the Curator; (5) a

collection of over five hundred shell and stone implements, ornaments, etc., from Barbados; and (6) two collections of selected stone implements from South Africa given by Colonel H. W. Feilden, C.B.; (7) a collection of over 4500 objects, including stone and bronze implements, pottery (British, Roman, Saxon and Medieval); a magnificent series of personal ornaments, etc., from the Saxon burial-ground at Barrington, Cambridgeshire, found in 1878 by the donor; a series of objects from the Swiss Lake Dwellings; and a large number of miscellaneous antiquities from Great Britain and the Continent bequeathed by Walter K. Foster, Esq., 1891; (8) a Late Celtic metal-worker's hoard, found in Suffolk, 1898, which includes bronze and iron tools and implements, and a fine bronze jug, fibulæ, etc., of Roman workmanship, given by the Cambridge Antiquarian Society; (9) a finely worked, gold and garnet, Saxon brooch given by Mrs Flatman; (10) a set of typical Irish stone implements given by M. J. Knowles, Esq., R.I.A.; (11) the Murray Collection of Irish Antiquities, including in its remarkable series of weapons, ornaments, etc. of the bronze age, the only celt attached to its wooden handle which has been found in the British Islands, purchased by private subscription, 1900; (12) two extensive collections of flint implements from Upper Egypt and the Fayum presented by Baron A. von Hügel and Prof. Bevan respectively; and a large series of Pre-Dynastic antiquities of stone, pottery, etc. given by the Egypt Exploration Fund, 1901; (13) medieval and other pottery from Cambridge given by Mr S. J. Freeman; (14) a collection of stone implements from St Vincent, West Indies, presented by C. J. P. Cave, M.A.; and (15) Roman bronze ornaments, and pottery found at Godmanchester, Hunts., in 1903, by the donor the Rev. F. G. Walker, M.A.

The aim of the Museum being to present to the student an unbroken record of man's civilization as exemplified in his manufactures, the ethnological collections of the University have found here a fitting resting-place side by side with those of antiquarian interest. Some of the most important additions to the Ethnological section are:

(1) Three comprehensive collections of native manufactures, including weapons, implements, utensils, dresses and ornaments, from Fiji and other islands of the Western Pacific, Australia and New Zealand. Two of these collections were presented, respectively, by the Hon. Sir Arthur H. Gordon (later Lord Stanmore), G.C.M.G., M.A., Trinity College, and by A. P. Maudslay, M.A., Trinity Hall. The third, the most extensive of the three, including a series of New Zealand objects, was deposited by Baron Anatole von Hügel, M.A., Trinity College, in 1885; (2) a series of objects from the Islands of the Western Pacific, including an enormous bird-shaped bowl, carved in wood and inlaid with shell, from the Solomon Islands, presented by the Right Rev. J. R. Selwyn, D.D., Bishop of Melanesia, 1887; (3) a plank-built canoe, inlaid with shell, from the Solomon Islands, presented by the Hon. Sir Arthur H. Gordon; (4) a collection of native manufactures collected in New Guinea by the late General Sir Peter H. Scratchly, K.C.B., and received on loan from Lady

Scratchly, 1889; (5) a collection of native objects from the Solomon, the Banks, and the Santa Cruz Islands, presented by Bishop Selwyn, 1890; (6) a collection of native manufactures formed in the islands of Torres Straits by the donor, A. C. Haddon, Sc.D., Christ's College; (7) a series of bronze and alabaster images from India, Burma, and Japan, transferred from the Fitzwilliam Museum; (8) a series of selected weapons and implements from New Guinea and other South Sea Islands, bequeathed by H. B. Brady, F.R.S.; (9) a collection of native manufactures from the Friendly Islands and the Eastern Pacific, formed 1835 to 1837, presented by George Brady, M.D., F.R.S., 1892; (10) a complete set of the manufactures of the Andaman Islanders presented by Colonel Sir R. C. Temple, Bart., and (11) a smaller collection from the Nicobar Islands, presented by R. H. Man, Esq.; (12) various selected Australian weapons, implements, and ornaments, presented by E. C. Stirling, M.D., Trinity College, 1895; (13) a collection illustrative of extant superstitions in Scotland and Ireland; the Starr Collection of Mexican Folk-Lore; and the Owen Collection of Wampum (American Indian bead-work), etc., deposited by the Folk-Lore Society; (14) a series of objects from the Ellice Islands collected by the donor, J. S. Gardiner, M.A., Caius College, 1898; (15) a collection of over one thousand specimens of Malay and Sakai manufactures from Selangor, Malacca, formed by the donor, W. W. Skeat, M.A., Christ's College, District Magistrate of Larut; (16) Bornean dresses, ornaments and implements, presented by R. W. C. Shelford, M.A.; (17) a series of native manufactures from British New Guinea, given by H.E. Sir Wm Macgregor, G.C.M.G.; (18) a collection comprising over fourteen hundred articles of dress and ornaments, weapons, implements, etc., from New Guinea and adjacent islands, received from the Cambridge Torres Straits Expedition; (19) a valuable collection of Bornean native manufactures, given by Ch. Hose, Hon. Sc.D.; (20) a fine series of dresses, ornaments, weapons, etc., from the Solomon and other Melanesian Islands, presented by Mrs Selwyn, 1901; (21) a representative collection of native objects obtained by the donor, Prof. J. Stanley Gardiner, in the Maldive and Laccadive Islands; (22) a number of highly finished personal ornaments, etc., from the Solomon and the Santa Cruz Islands, given by the Rev. John Still, M.A.; (23) a set of old *Maori* carvings presented by Lord Peckover, Professor Bevan and C. J. P. Cave, M.A.; (24) the Skeat Collection of Malay and Siamese native objects, purchased 1902, (25) a set of native charms received from the Katikiro of Uganda; (26) collections illustrative of the natives of British Guiana, presented, respectively, by Major W. Cooke Daniels, U.S. Army, and by Sir Alexander Swettenham, K.C.M.G.; and (27, 28) two representative collections from Africa, viz. the Roscoe Collection from Uganda, presented by the collector, and the Thomas Collection from Nigeria, the gift of Professor Bevan in 1910. Since this date many additions have been made to both collections.

The Museum is specially noteworthy for its collection of Anglo-Saxon objects, which includes a large series of cinerary urns, and is probably the finest in the United Kingdom. The collection of local stone and bronze implements, Roman pottery,

etc., is of great extent. Among the Late Celtic cinerary urns, observe a tall specimen of Shale, from Old Warden, Bedfordshire. Note also the two bronze shields from Coveney Fen, Ely. The series of native manufactures from the South Sea Islands is very large and interesting, embracing as it does a unique collection from the Fiji Islands. The Library, which includes works on Archæology, Topography, Ethnology, Geography, Travel, and Philology, is of considerable size.

The Botany School.

The building for the above School, formally opened together with the then unfinished Squire Library by King Edward VII and Queen Alexandra, 1 March, 1904, was designed by W. C. Marshall, M.A. (Trinity College), architect, and built by Mr Sindall of Cambridge.

The building is a simple and comparatively plain structure, depending on its proportions and materials for its excellent effect. Without aiming at close imitation of old work, it is reminiscent of the Renaissance Architecture of the end of the 17th century. The material is reddish-brown brick, with facings and mullioned windows of Clipsham stone.

The north, or principal façade, has a central pilastered projection, built of stone up to the first-floor and surmounted by a plain pediment; and on either side of this are the entrances and staircases. This central feature faces the principal entrance to the quadrangle from Downing Street.

The building, which is 200 feet long by 40 feet wide, comprises a basement and three floors, with a mezzanine between the first and second floors. There is also a flat roof available for experimental purposes. It is lighted thoughout by electricity.

Basement.

The central part of the basement is occupied by the lower part of the large Lecture-room, adjacent to which are preparation-rooms and store-rooms. It also includes a workshop, coal-cellars, boiler-room, etc. A lift, for conveying materials and apparatus, runs from basement to top.

Ground-Floor.

The large Lecture-room, which measures 52 ft. by 35 ft., accommodates about 200 students.

The Herbarium, an oblong room measuring 45 ft. by 39 ft. 6 in., is lighted by windows on the north and south. It contains the extensive and valuable collections contributed by a succession of former Professors since the appointment of a Professor of Botany in 1724, and by various travellers, or purchased from time to time, including those of Lindley, Henslow, and Babington, Gray's *Algæ*, a series of Lichens, Fruits, and Seeds collected by Sir C. Bunbury, certain interesting plants brought by Charles Darwin from the Galapagos Islands and elsewhere, as well as additions made from time to time by others, among which may be mentioned the collection formed in the Pyrenees by Mr C. Packe, the *Rubi* of M. Genevier, an exceptionally good collection of British plants presented by the Rev. J. D. Gray, etc. Here also are a room for the Curator, a library of monographs and books on Systematic Botany, and accommodation for those engaged in research.

The Museum, a beautiful oblong room on the east of the Lecture-room, is of the same size as the Herbarium, well lighted on three sides by tall windows. A room for the Curator and a bay to the north for preparing specimens, are also provided.

The extensive collections, obtained from various parts of the world, here exhibited, comprise a series of specimens specially designed to display the chief biological and systematic features of all the great classes of the Vegetable Kingdom. For many of the specimens the Museum is indebted to donors at home and abroad.

The *Fungi* are represented by a comprehensive series carefully chosen, with the object of illustrating both the general biology of the plants, and the part they play as parasites in causing diseases and galls in plants and animals. Among the specimens illustrating the biology and morphology of the Vascular Cryptogams there are several exhibits deserving special attention. There is also a valuable collection, made by the late Professor Henslow, of woods, grafts, excrescences, and normal and abnormal growths on Forest-trees, etc. The

Museum also contains representative collections of Gymnosperms and Flowering-plants, with a number of Ferns, Mosses, Fungi, Lichens, Algæ and other plants. It also possesses a remarkable section of the trunk of the Mammoth Tree of California, showing over 1300 annual rings. Among other striking specimens may be mentioned an example of the "Vegetable Sheep" of New Zealand (*Raoulia*), an unusually good specimen of *Welwitschia* from S.W. Africa, giant Bamboos, inflorescences of Palms, etc.

First-Floor.

The first-floor may also be regarded as divided into three portions, comprising laboratories, research rooms, etc., not open to the public.

The centre, on the south side, is occupied by the Library, containing nearly 5000 volumes and pamphlets on all branches of Botany, properly catalogued and arranged on open shelves, and in glazed cases. The fact that 45 botanical scientific serial publications are taken in, shows that thorough provision is made for all branches of botanical study and research.

Opposite to the Library, to the north, are the private rooms of the Reader in Botany, and one of the University Lecturers.

The west end is occupied by two Laboratories. To the north is the Morphological Laboratory for the practical study of the Advanced Morphology and Anatomy of Plants; to the south the Chemical Laboratory for experimental study and research in the Chemistry of Plants. In the latter is also a photographic dark room.

The rest of this end of the building is occupied by rooms for research and an office.

The east end is occupied by the Professor's private room, the private rooms of one of the University Lecturers and of the Senior Demonstrator, rooms for incubators, sterilizers, preparation and stores on the south; and by the Professor's Laboratory and two rooms for research on the north, while a small greenhouse at the extreme east affords accommodation for experimental work on plant diseases and similar problems. The Library of Charles Darwin, recently placed in the Botany School by his son Sir Francis Darwin, occupies book-cases in the

corridor: the books, the catalogue of which may be obtained from the Librarian, are accessible to students engaged in research.



BOTANY SCHOOL, 1904

Second-Floor.

The western half of this floor is occupied by the large Laboratory for the practical study of General Botany by students attending the Professor's lectures. This is a large room nearly 100 feet long by about 40 feet wide at the broadest end, with accommodation for about 150 students.

The facilities offered by the Botanic Garden for the study of fresh specimens ensure adequate supplies of material. Adjoining the large Laboratory is a small Lecture-room for Advanced Lectures, and next to this is a store-room for Laboratory material.

The east end of the second-floor is occupied by the Laboratory for Plant Physiology, a nearly square room measuring about 45 ft. by 40 ft., lighted from three sides, and very fully equipped with apparatus for the experimental study of the Physiology of Plants. It contains a dark room, and has a door to the west leading to a greenhouse, which is so sunk in the building that it is not exposed to the heating effects of direct insolation at any time of the year.

The private room of the Reader in Botany, and a room for research, occupy the north side, between the two laboratories just mentioned.

The Roof.

The large flat roof is fitted with conveniences for experimental work. There is also a well-lighted greenhouse. The flat area is surrounded by gables on three sides so as not to interfere with the architectural effect from the quadrangle.

The School of Agriculture.

Agriculture is a Department of the University of comparatively recent growth. It has been recognised officially as a subject of study since 1899, but unofficial teaching had been in progress for seven years before that date. It is only quite recently, however, that the Department has been provided with its own building, the School of Agriculture, which was erected by Mr W. Sindall of Cambridge during the years 1908–9 from designs prepared by Mr Arnold Mitchell, F.R.I.B.A. The funds were collected by a Committee of the Cambridge University Association, presided over by the late Duke of Devonshire as Chancellor of the University, and latterly by the present Duke.

In 1913, the building was extended to nearly double its original size, in order to accommodate the laboratory work of the Institutes for Research in Plant Breeding and Animal

Nutrition established in connection with the School of Agriculture by the Board of Agriculture and Fisheries. The funds for the extension of the building and also for the provision of an additional farm for plant breeding were granted by the Development Commissioners.

The income of the Department is provided by grants from the Drapers' Company, who also subscribed liberally to the building fund, the Board of Agriculture and Fisheries, the County Councils of 11 of the counties of the East of England, and by private benefactions.

Grants are also received from the Development Fund through the Board of Agriculture and Fisheries for research in plant breeding, animal nutrition and several special subjects, for the maintenance of an advisory staff for the Eastern Counties' Province, for the administration of the government scheme for the improvement of live stock, and for the provision of a survey of the soils and agriculture of the Eastern counties.

Building.

The basement of the original building contains heating apparatus, a store-room, a machinery-room and a drying-room for preparing for analysis samples of soils, crops, and other agricultural commodities. The large lecture-room occupies nearly half of the basement and the ground floor. Its walls will, in time, be covered with museum cases for the display of specimens illustrating plant and animal breeding, and other subjects in which the officers of the Department are engaged. The rest of the ground floor contains an office, a library, and three private rooms for members of the staff. The first floor is devoted to the biological sciences as applied to Agriculture. It contains a lecture-room and a biological laboratory, each of which is designed to accommodate a class of 50 students; also private rooms for members of the staff engaged in botanical, physiological, and zoological work, among which are two rooms assigned respectively to the Botanist and the Zoologist of the Royal Agricultural Society of England. The second floor is equipped for the study of Agricultural Chemistry and Physics. It contains a lecture-room and an elementary laboratory each to hold 50 students, also a balance-room and preparation-room, an advanced laboratory, and private rooms

for chemical and physical research. In the roof of the building there is a greenhouse for the growth of plants for experimental purposes, a dark room for photography, and accommodation for stores.

The basement, the ground floor and the first floor of the extension contain numerous rooms for research. The second floor is almost entirely occupied by a large laboratory for elementary agricultural chemistry and physics.

Farms.

The Department is also equipped with a farm for teaching and research leased from Trinity and Clare Colleges by the University. The farm is known as Gravel Hill, and is about 230 acres in extent. It lies chiefly between the Huntingdon and Madingley roads adjoining the Observatory. The entrance is from the Huntingdon Road. Visitors who wish to see the farm should obtain permission from the Secretary, School of Agriculture, Cambridge.

The plant breeding farm has an area of about 230 acres and adjoins Gravel Hill Farm on the north side. The Animal Nutrition Institute also possesses a share of the Field Laboratories situated in Milton Road.

The Physiological Laboratory.

This Laboratory was presented to the University in 1914 by the Worshipful Company of Drapers. The architect was Sir Thomas Jackson, R.A., who, in consultation with the Professor, arranged the rooms to suit the special needs of the Department. Externally the main part of the building is of purple Cranley brick. It consists of five stories, the lowest being five feet below the ground. At the west end, the fourth and fifth stories are thrown together into one large room for microscope classes, and the fifth story is represented by a gallery which surrounds the room. There is top light along the whole course of the building. The ground floor is for plant and for electrical research, with the string galvanometer and capillary electrometer, and for measurement of minute quantities of heat, such as a millionth of a degree centigrade.

A battery of accumulators supplies light to the whole of the laboratory, and power (110·4 volts) to most of it. An air-compressor driven by an electric motor supplies air at 12–25 lbs. per sq. inch to the research rooms. A cold storage plant can when required keep a small room on the first floor at 0°–2° C. In one room is placed a series of small tanks for keeping marine animals; the sea water is continuously aerated and passed through filters by pumps operated by compressed air; by the method employed the sea water need only be renewed about once in three months. On the ground floor there is also a workshop with lathe, drilling machine, etc. On the first floor are the library, a small lecture room, a demonstration theatre, photographic and research rooms, and the office. The demonstration theatre can be rapidly darkened from the lecturer's table by an electric motor. A hole in the back wall allows the projection of films from a cinematograph in the next room. In the theatre there is also a projection lantern. The second floor is chiefly for research. In one room X-ray apparatus is installed which is partly used for instructing students in the methods of X-ray work. Three rooms are set aside for work on respiration and the analysis of the gases of blood. There is a dark room for teaching and research in visual phenomena. On this floor is the Professor's room. The two upper floors are devoted entirely to the instruction of students. Besides the microscope room, capable of seating about 150 students, which has already been mentioned, there are two large experimental rooms fitted with shafting and driving drums at six different speeds ranging from one revolution a second to one revolution in thirty-five minutes, and supplied with a variety of apparatus.

The main staircase opens on to

The Psychological Laboratory.

This Laboratory is approached by the entrance and staircase of the new Physiological Laboratory, and is one of the best buildings in Europe devoted to the experimental study of mental life. On the ground floor there are a lecture-room capable of accommodating about forty students, an office, an assistant's private room, a mechanic's workshop, and a room for research in animal psychology. Much of the

apparatus used for experiments in the Laboratory is constructed in the workshop, which contains, besides the usual fittings, a small organ bellows, which is noiselessly driven by water power and can be started from various rooms in the Laboratory. This serves to provide air at a constant pressure for blowing wind instruments needed for acoustic experiments.

First Floor.

On the first floor, to the right, is the Library. This you will find to contain a good collection of psychological books and current journals, and photographs of some leading psychologists. To the left are two practical class rooms and a dark room. The larger of the class rooms measures 42 feet in length, and is capable of accommodating about thirty students. It is well lighted by four wide arched windows, and is provided with two rows of tables from which connections may conveniently be made to gas and the electric currents. In the two class rooms are many interesting pieces of apparatus for the study of visual and sound sensations, optical illusions, memory, reaction times, and other subjects. The large and well equipped dark room is provided at one end with an arrangement permitting an investigator to enter and leave the room without admitting light into it; at the other end of the room is a series of shutters, which may be closed or opened for the purpose of admitting artificial light or daylight from a narrow passage, beyond which are the outside windows.

Top Floor.

The six rooms on the top floor are intended solely for research. One of them is lighted from above, and another can be used as a dark room if necessary. In all of them are various pieces of apparatus including an ergograph for the investigation of muscular fatigue, a spot pattern test machine, and the Hales tachistoscope for the study of various problems of perceiving. On this floor also, separated as far as possible from the rest of the building, a sound proof room has been erected, and is used for auditory experiments. It has been built on two girders let into partition walls, but protected therefrom by an envelope of sound-isolating material. On these girders stand sixteen sets of special sound-isolating

apparatus, and the floor of the sound proof room rests on this. The walls are made of two layers of clunch (chalk) separated by an air space, within which come layers of compressed peat and horsehair.

The architect of the Laboratory was Sir T. G. Jackson, Bart., R.A. The building was opened in 1913, and it represents the third removal of the psychological department of the University. It was in 1897 that Cambridge took the first serious step towards providing teaching in Experimental Psychology, although 20 years earlier Dr Venn and Dr James Ward had urged the necessity for a Psychological Laboratory. In 1897 Dr W. H. R. Rivers was appointed University Lecturer in Experimental Psychology and Physiology of the Senses, and a small room was allotted to him by Sir Michael Foster in the Physiological Laboratory. But the department speedily outgrew its small space. In 1901 and again in 1903 the growing demand for more adequate accommodation was met by removal to larger premises. In 1909 the department was housed in a small and very dilapidated cottage in Mill Lane, and at that time the Special Board for Moral Science urged on the Senate the unsuitability of the premises, and pointed out the necessity for a larger, quieter and better lighted building if instruction and research in the subject were still to be carried on.

A space on the Downing Site was thereupon offered by the University for a Psychological Laboratory, and the present building was erected. The cost of its erection was defrayed by public donations, chiefly collected and very largely supplemented by Dr C. S. Myers, and subsequently grants were made by the University Association for its maintenance and proper equipment.

School of Forestry.

The School of Forestry was erected in 1913 on the Downing site, in proximity to the School of Agriculture, and was designed by Mr William C. Marshall. The present building is a rectangular block, 62 feet by 38 feet, designed with a view to future extension. It is a four-storied building and contains a library, museum, laboratories, research rooms, and a workshop, in addition to lecture rooms. The interior of the building is

in process of being fitted out in various kinds of wood. One room is panelled in brown oak, while the library is fitted in walnut. Other rooms will in time be panelled in different woods. The School contains large collections of materials connected with the science and practice of forestry, and special mention should be made of the very extensive collection of home and foreign timbers.

THE SEDGWICK MUSEUM OF GEOLOGY.

The study of Geology in the University of Cambridge originated with the bequest of the versatile physician Dr John Woodward, who by Will dated 1 October, 1727, directed his executors to convert into money his personal estate and effects, to purchase land of the yearly value of one hundred and fifty pounds, and to convey the same to the University of Cambridge. Out of this rent a yearly salary of one hundred pounds is to be paid to a lecturer, who is to "read at least four lectures every year," and to expound therein the doctrines promulgated by the founder in his *Natural History of the Earth*, and other works. In the next place he bequeaths to the University his collections of English fossils, with the two cabinets containing them, and their catalogues. The executors are to "cause and preserve the same to be lodged and reposited in such proper room or apartment as shall be allotted by the said University"; the lecturer is to have charge of them and their catalogues; and he is "to show the said Fossils, gratis, to all such curious and intelligent persons as shall desire a view of them for their information and instruction." To these cabinets two others, containing foreign fossils, were presently added by purchase for the sum of one thousand pounds; and in 1734 a small room was set apart in the King's Library for their accommodation. When new acquisitions had to be displayed, this room was found to be wholly inadequate, and many abortive attempts to replace it by something better were made, and there the Geological collections of the University remained for more than a hundred years.

The first lecturer was appointed, as Dr Woodward had directed, in 1731, and between that date and 1818, when Adam Sedgwick was elected, six gentlemen occupied the chair. Although it is clear from the new catalogues drawn up and from contemporary records of the social life of the University that work was being done and the subject discussed, it does not appear that any public lectures were delivered until the time of Sedgwick.

The new Professor's intellectual force, his varied attainments, and his most attractive personality soon made themselves felt, and before long his lecture-room was crowded with eager listeners, while his demonstrations of geology out of doors, when he conducted a large party of horsemen across country, were some of the most popular engagements of the term.

It does not always happen that a first-rate lecturer is an equally good collector; but Sedgwick never forgot the importance of a large series of

specimens, carefully selected and well displayed in a good Museum. To acquire these he used not merely his scientific knowledge, but his social influence; and, whether it was a question of donation or purchase, he pleaded so irresistibly that a specimen was surrendered, or a subscription paid with almost incredible swiftness. His endeavours were rewarded by the accumulation of a vast collection, which filled not merely the Woodwardian apartment, but turned his own College rooms into a storehouse.

In 1837 the first stone of Cockerell's Building was laid. The funds were raised, in part by subscriptions, which amounted to £23,400, and Sedgwick, though by no means a rich man, contributed one hundred guineas. Moreover, he was active in soliciting subscriptions from others. About £4000 of Woodwardian Trust money was added to the fund. The north side only of the intended quadrangle was built; but the ground-floor and the basement of the part constructed were large enough to enable Sedgwick to display his collections; and, with the help of the most skilful scientific experts in each department, he soon made the whole available for educational purposes. This removal took place in 1841; and for a time, by judicious annexation of some neighbouring territories, the Museum was large enough for its contents; but gradually, as purchase after purchase was made at Sedgwick's suggestion, and gift after gift received through his influence, the need for enlarged quarters became as manifest as it had been in 1837. But the poverty of the University, not its will, stood in the way, and no change was possible.

In January, 1873, at the ripe age of eighty-eight, Sedgwick passed away; and what he could not effect in life, was brought to pass, slowly but surely, by his death. Two months later, a great meeting of his friends was held in the Senate House; and speaker after speaker, dealing with the subject from different points of view, agreed in one thing, namely, that the one suitable memorial to Sedgwick would be a new Geological Museum, to bear his name for ever, as the Professorship bears that of Woodward.

The eloquence of that day was succeeded by the more prosaic labours of a hard-working committee, who before many months were over had collected a sum of money which ultimately, before the Museum was begun, amounted, with interest, to £28,700. This sum, added to what had been expended on the old Museum now given up to the University Library, has enabled the University to erect the present noble building, from the designs of Sir T. G. Jackson, R.A., architect.

First Floor.

Ascend the double staircase, which, with the tower adjoining, breaks the uniformity of the south front of the building in so picturesque a manner, and enter the principal Museum, which occupies the whole of the first-floor of the two wings, called Downing Street Wing and Downing Place Wing respectively (see plan), into which the building is divided.

Turn *right* on entering the Museum, and walk to the south end of the Downing Place Wing. On your way note, in a niche of the wall which separates the two divisions of the Museum, a bronze statue of Professor Sedgwick, given by his old friend the Reverend William Selwyn, D.D., and executed by Onslow Ford, R.A. On the opposite face of the wall is hung a portrait of Sedgwick, in oils, by Robert Farren, of Cambridge. It was taken when he was a very old man, and is an excellent likeness of him at that date.

At the end of the Museum, close to the door admitting to the Professor's private room, are two compartments dedicated to the safe keeping of Dr Woodward's collections, still contained in the venerable cabinets in which they arrived at Cambridge nearly two hundred years ago. A catalogue of this collection was published in 1729, called:

An Attempt towards a Natural History of the Fossils of England; in a Catalogue of the *English* Fossils in the Collection of J. Woodward, M.D. Containing a Description and Historical Account of each; with Observations and Experiments made in order to discover as well the Origin and Nature of them as their Medicinal. Mechanical, and other Uses.

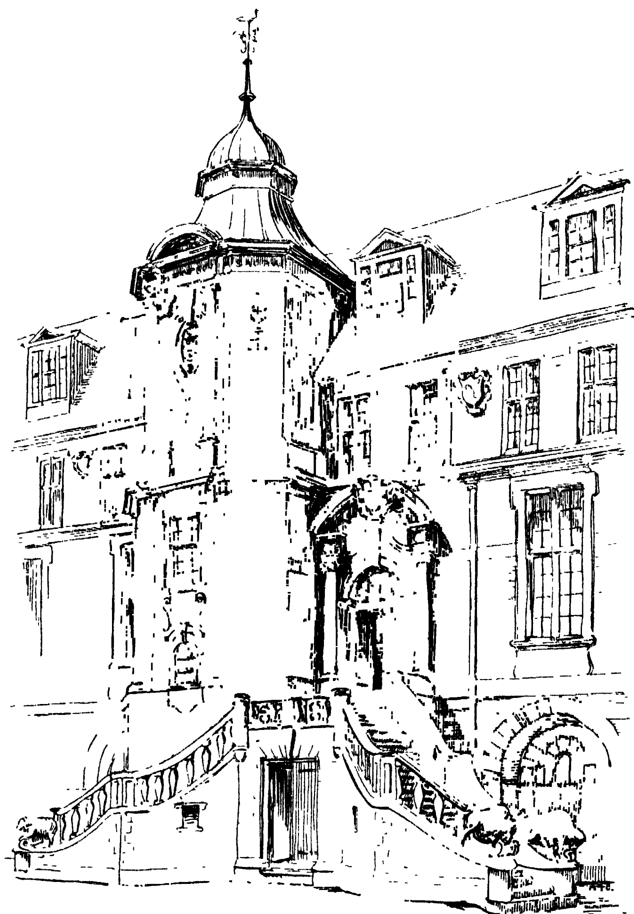
This was succeeded by:

A Catalogue of the Foreign Fossils in the Collection of J. Woodward, M.D., brought as well from several Parts of *Asia*, *Africa*, and *America*; as from *Sweden*, *Germany*, *Hungary*, and other Parts of *Europe*.

Near this compartment hangs a portrait of Sedgwick in crayons, by Lowes Dickinson, taken in 1860. This, on the whole, gives the best idea of Sedgwick in his years of greatest energy and activity. A portrait of Woodward, in oils, in an oval frame, hangs near it.

The noble collection which occupies the whole of the first-floor, due as explained above to the energy of Sedgwick and his friends, is arranged in stratigraphical order, the older fossils being placed at the south end of the Downing Place Wing (near Woodward's cabinets) and the more recent at the west end of the Downing Street Wing. We will take the noteworthy objects in this series, beginning with the oldest rocks.

A representative selection of the oldest known fauna (that of the *Olenellus* beds of the Cambrian rocks) was presented by the Hon. C. D. Walcott, Director of the United States Geological



SEDGWICK MUSEUM, 1904.

Survey. Of other Lower Palæozoic collections note those of Colonel Fletcher (a fine set of Wenlock Limestone organisms), and those of the late M. Barrande (Bohemian fossils) which were purchased; also the collections presented by Dr Hicks, Professor H. A. Nicholson, and Mr Kinsey Dover. The collection of Lower Palæozoic forms is the expansion of that originally made by Professor Sedgwick when working out the succession of the older rocks of Wales.

Among the Upper Palæozoic fossils, note a fine series of Old Red Sandstone fishes, partly presented by James Binney, partly obtained from other sources; the Whidborne Collection of Devonian types figured by the late Rev. G. F. Whidborne in the Palæontographical Society's monographs, and given by him to the Museum. His widow has presented the remainder of his collections together with his scientific books and MSS. Note also the following Carboniferous specimens; the Burrows Collection from Settle in Yorkshire, the Binnie Collection of Coal Measure plants, and the Aitken Collection of plants, mollusca, and fishes from the Millstone Grit and the Coal Measures.

The Mesozoic fossils are in cases occupying the eastern portion of the Downing Street Wing. The Count Münster Collection of foreign Triassic and Jurassic fossils contains a fine group of specimens from the Lithographic Stone of Solenhofen, some of which are figured in his *Petrefaktenkunde* (1839). The Leckenby Collection consists of Jurassic and Cretaceous fossils, mostly from Yorkshire. A fine series of Saurians from the Jurassic beds are partly arranged down the centre of the Museum, partly in cases at the sides. Specially valuable are the Liassic reptiles presented by Mr T. Hawkins, those from the Oxford Clay of Peterborough (collected by Dr H. Porter and others), and also those from the Kimmeridge Clay of Ely. The Strickland Collection is also largely composed of Jurassic fossils. Two valuable additions have been recently made in the remainder of the collection of Rev. J. F. Walker and a selected series from the cabinets of Mr W. H. Huddleston.

The Cretaceous faunas are very well represented. Besides those in the Leckenby Collection we may notice the organisms in the collection presented by the Rev. T. Wiltshire, M.A., Hon. Sc.D., which includes many choice echinoderms and

mollusca, a remark which also applies to the Forbes Young Collection from the Chalk of Kent and Sussex.

The collection of the late Montagu Smith, B.A., of Trinity College, has many interesting fossils, especially those from the Middle Chalk, of which this is the best existing series.

The collection of the late C. J. A. Meÿer consists chiefly of Cretaceous fossils from south-eastern England, and from the London Clay of Portsmouth docks. It is specially valuable on account of the exact horizons from which the fossils were obtained being known It includes many figured specimens.

The collection made by the late James Carter, M.R.C.S., and presented by his daughter Mrs J. E. Foster, is worthy of note for its local Cretaceous fossils, and the fine suite of Crustacean remains.

Note especially the fossils from the local seam known as the Cambridge Greensand, as being the best collection from this seam, and as containing the only British representatives of Mesozoic birds.

The Tertiary fossils occupy the western portion of this building. Thanks to the collection made and presented by the Rev. Osmond Fisher, M.A., Honorary Fellow of Jesus College, from the Lower Tertiary beds of Hampshire, and that made during many years by the late Curator, Mr H. Keeping, the Museum possesses a remarkably representative series of Eocene and Oligocene fossils. Note the plants from the Bagshot beds of Alum Bay and Bournemouth (also collected by the Curator).

The Pliocene fossils are enriched by the specimens collected by Mr Montagu Smith, and by the Curator. The latter obtained a specially fine set from the St Erth beds, Cornwall.

Among the Pleistocene fossils the mammalian bones are fine. Of Cavern bones the Museum possesses specimens from Belgium and Pembrokeshire, the latter collected and presented by the late T. Roberts, M.A., of S. John's College. Of bones from the river-gravels, which are chiefly local, note especially the fine series found at Barrington. Among these are heads of the Hippopotamus and Rhinoceros.

There is a good series of peat-bones, including a skeleton of an Irish Stag (*Cervus megaceros*). From the Cambridgeshire Fens note the bones of Beaver, Pelican, Urus (*Bos primigenius*), the smaller Ox (*Bos longifrons*), and Wolf.

Second Floor.

On the second-floor, in addition to rooms devoted to teaching, are the Petrological Museum and the Library. The former is in the Downing Place Wing. The rock-collections are mostly of later growth than the fossils, and their arrangement is not yet completed. Two large table-cases contain a general collection of Igneous rocks, while the upper glazed portion of the same cases is devoted to a series of British Sedimentary and Metamorphic rocks, and to various local and special collections. The upright glazed cases are for the most part not yet arranged, but in those against the eastern wall are a variety of specimens illustrating rock-structures, and a collection of British Tertiary igneous rocks, arranged chronologically. Cabinets in the Petrological Laboratory contain a number of special collections of rocks, many of them illustrative of published memoirs; and in the same room are stored the microscopical collections, including some 5000 slides.

Library.

The Library is at the west end of the passage in the Downing Street Wing. It is a handsome room with oak fittings, the cost of which was defrayed from the sum bequeathed by the late Master of Trinity Hall (Rev. H. Latham, M.A.). The collection of books, which represent all branches of the Science, has been specially enriched by the gifts of the late E. B. Tawney, M.A., of Trinity College, and the late Rev. T. Wiltshire, M.A. Workers in the Museum should notice books which refer to portions of the Collections of specimens. In addition to the Catalogue of the Woodward Collection already mentioned, note the following:

A Synopsis of the Classification of the British Palæozoic Rocks; by the Rev. Adam Sedgwick, M.A., F.R.S., with a systematic description of the British Palæozoic Fossils in the Geological Museum of the University of Cambridge by Frederick McCoy, F.G.S. (Camb. Univ. Press, 1854).

Index to the fossil remains of Aves, Ornithosauria, and Reptilia from the Secondary System of Strata, arranged in the Woodwardian Museum in the University of Cambridge by H. G. Seeley (Cambridge, 1869).

The Ornithosauria: an elementary study of the bones of Pterodactyles made from fossil remains found in the Cambridge Greensand, and arranged in the Woodwardian Museum of the University of Cambridge, by H. G. Seeley (Cambridge, 1870).

A Catalogue of the Collection of Cambrian and Silurian Fossils contained in the Geological Museum of the University of Cambridge by J. W. Salter, F.G.S. With a preface by the Rev. Adam Sedgwick, LL.D., F.R.S. (Camb. Univ. Press, 1873).

Catalogue of the type-fossils in the Woodwardian Museum, Cambridge, by Henry Woods (Camb. Univ. Press, 1891).

Catalogue of the fossils in the Students' Stratigraphical Series, by Henry Woods, M.A., F.G.S. (Camb. Univ. Press.)

Catalogue of Minerals in the Students' Petrographical Series, by Alfred Harker, M.A., F.R.S. (Camb. Univ. Press.)

Catalogue of Rock Slides in the Students' Petrographical Series, by Alfred Harker, M.A., F.R.S. (Camb. Univ. Press.)

Catalogue of the Rock Specimens in the Students' Petrographical Series, by Alfred Harker, M.A., F.R.S. (Camb. Univ. Press.)

Catalogue of the Minerals, Rocks, and Fossils in the Introductory Students' Series, by R. H. Rastall, M.A., F.G.S.

Catalogue of the Collection, illustrating the Optical Properties of Minerals in the Students' Petrographical Series, by Alfred Harker, M.A., F.R.S., Pres. G.S. (Camb. Univ. Press.)

British and Foreign Building Stones: A descriptive catalogue of the specimens in the Sedgwick Museum, Cambridge, by John Watson, M.A., Camb. (Camb. Univ. Press.)

Marbles and Ornamental Stones in the Sedgwick Museum by John Watson, M.A., Camb. (Camb. Univ. Press.)

Methods in Practical Petrology, by Henry B. Milner, B.A., Trin. Coll., Camb., F.G.S., &c., and Gerald M. Part, B.A., Trin. Coll., Camb., F.G.S., &c. (W. Heffer and Sons, Ltd.)

In Preparation. Guide to the Sedgwick Museum, by Henry B. Milner, B.A., Trin. Coll., Camb., &c.

The most notable benefaction to the Museum which has been received lately is the collection of building stones brought together from all parts of the world, arranged, and catalogued by Mr John Watson, and exhibited on the ground floor.

The third-floor of the Museum contains duplicates, and has space for the future expansion of the collection.

BOTANIC GARDEN.

On leaving the Downing Site, turn *left* down Pembroke Street and *left* down Trumpington Street until you reach Hobson's Conduit. Follow the brook, as far as Bateman Street, and again turn *left*. The entrance to the garden is a little way down on your *right*. There is another entrance further down Trumpington Road, opposite Coe Fen. Note the handsome iron gates, which used to stand at the entrance to the Old Botanic Garden in Pembroke Street. The Garden extends over more than 20 acres; while rather more than 17 acres,

now let in allotments, are available for future expansion. The Garden contains an extensive and efficient range of plant-houses, built 1888 and 1891 on the most modern system; a considerable Arboretum, which includes fine *Coniferae* and many choice trees and shrubs; and extensive collections of hardy Herbaceous and Alpine plants; a Rockery, and a Water or Bog Garden. The out-door collections are arranged, with some exceptions, according to the Natural System of De Candolle.

We will suppose the visitor to enter from Bateman Street. After passing the walls devoted to climbers and wall plants you come to the Curator's office (*right*), and next to the Plant-houses (*left*). The Corridor, more than 90 yards long, which you enter first, connects the various houses and the laboratory, and serves also for the cultivation of climbers, one of the most interesting of which is *Arauja cericifera*, famous for the moth-catching propensity of its flowers. More important economically is the small-fruited grape-vine (*Vitis vinifera corinthiaca*) which produces the "currant" commonly used in cakes. It grows near the Conservatory. Near it is *Boehmeria nivea* which yields the beautiful fibre known as China Grass, or Ramil, said to be one of the finest and strongest known. Further on will be found also the vine which bears the "Sultana" raisin. Ornamental plants are numerous, and among them may be mentioned the Passion Flowers (*Passiflora*), Hibbertias, Daturas, especially *D. suaveolens* of Mexico, the flowers of which are said to be cross-pollinated by Humming-birds, and Bomareas allied to *Alstroemeria*, the leaves of which are turned over and the surfaces physiologically reversed. The houses open on the south side, while on the north is a laboratory for advanced students, potting sheds, a reading-room, a library for gardeners, and other offices.

Temperate House.

The first house is the Temperate House, in which are cultivated the plants of Australia, the Cape, and countries of similar climate. Inside the door is a magnificent specimen of *Todea barbara* from the Australian Alps, not distant either in habit or relationship from our own Royal Fern. Note also the Fan Palm of the south of Europe (*Chamaerops humilis*), New Zealand Flax, Tree Ferns, various species of *Eucalyptus*, and the Date Palm. Among the *Eucalypti* observe *E. amygdalina*, which grows to be one of the tallest trees on earth

(about 470 ft.); the Blue Gum, *E. Globulus*, valuable for planting in moist malarial districts, and the Karri, *E. diversicolor*, the wood of which makes the best street pavement. The Jarrah, also used for paving, is *E. marginata*. Here also will be found the Camphor-tree (*Cinnamomum Camphora*) of China and Japan and *Olea fragrans* with flowers of delicious perfume used for scenting tea in China. Among other plants of interest observe the Rice Paper plant (*Fatsia papyrifera*) the pith of which is cut into thin sheets for painting upon. At the end of the house is a collection of tender *Coniferae*, formed chiefly for students in Palæobotany for comparative purposes. The Tea-plant is most likely to be found in this house.

Cool Fern House.

The Cool Fern House, in addition to a general collection, contains many British kinds. Note *Gymnogramma leptophylla*, an annual fern found in Jersey, and fine specimens of *Platycerium alcicorne*, and *Polypodium Schneideri*, a remarkable hybrid fern showing the characters of two very distinct plants. Observe *Asplenium bulbiferum* the fronds of which are fringed with little plants able to grow, and thus providing a vegetative means of increase. In water contained in a bell-jar notice a fine plant of Quillwort (*Isoetes lacustris*), which grows in alpine and sub-alpine lakes, and is an ally of the very different-looking Selaginellas and Lycopodiums.

Conservatory.

The Conservatory is devoted to the ornamental flowering plants of special botanical service, with others not ordinarily found in gardens. Its contents vary with the time of the year.

Stove.

The Stove contains choice Tropical plants, the majority of the Cycads, of which nearly all the genera are represented, and a set of the more important economic plants. The Cycads, handsome as they are in foliage, represent the lowest type of flowering plant. They flourished about the end of the Triassic and beginning of the Jurassic period. Here may be seen the plant upon which the species *Pilocarpus Jaborandi*,

Holmes, was established. Note on the roof a peculiar form of the Yam (*Dioscorea sativa*) bearing tubers in the axils of the leaves. Close to it is a fine variety of *Gloriosa superba*, which, like its allies, climbs by means of prehensile leaf-tips. Here will be found all the principal genera of Caoutchouc-producing plants, the Mahogany-tree, the Cola nut, Tamarind, Papaw, Coca, Mango, Pine-apple plant, Ginger, Coffee, Cinnamon, and Arrow-root. On the same shelf is *Abrus precatorius*, which obtained an absurd notoriety a few years ago as the "Weather-plant," and was said even to predict volcanic disturbances. Its seeds, known as Crab's-eyes, are used in India by jewellers and druggists as weights. On the east shelf is a plant of the Baobab (*Adansonia digitata*), which produces a trunk 30 ft. in diameter, but of small height. Some trees were supposed by Humboldt to be older than any other of the organic monuments of our planet. One of the most interesting subjects is *Acacia sphaerocephala*, in the large spines of which in Central America an ant resides, forming a garrison for its protection from leaf-cutting ants. It is interesting that the Acacia grows special food for its protecting army. Plants which afford shelter for ants are termed "myrmecophilous," and another in this house is *Cecropia peltata*. It has hollow stems to which the ants make a door, at a thin place apparently provided for the purpose, and food-bodies are produced on a "pulvinus" at the base of the petiole. Near it or usually to be seen on application is *Dischidia Rafflesiana*, which makes leaves into pitchers to catch water and *débris*, and sends in roots to extract the nourishment. In this house, in summer, will be found *Mimosa pudica* often known as the Sensitive Plant and usually also *Desmodium gyrans* the Telegraph plant the lateral leaflets of which move spontaneously.

Palm House.

In the Palm House are numerous choice Palms, the Banana, specimens of *Dioon edule* and Cycas. One of the finer Palms is *Arenga saccharifera*; a saccharine juice is obtained from the floral sheaths, the stems provide a kind of sago, and the black fibrous investment is used for many purposes, as for instance the making of cordage. Another

important Palm is *Phytelephas macrocarpa*, the Ivory-nut palm, the seeds of which are used in large quantities for the manufacture of buttons and similar small articles. Among the climbing Aroids observe in the corner to left on entering the remarkable *Monstera deliciosa*, which bears an edible fruit, and has leaves with large round holes. On the east shelf notice *Bixa Orellana* the plant which yields Arnatto and *Ficus Sycamorus* the soft wood of which is nearly imperishable and was used for mummy cases by the Egyptians, and Traveller's Tree, *Ravenala Madagascariensis*, the leaf-stalks of which are said to hold a quantity of excellent drinking water.

Aquarium.

In the Aquarium adjoining, in addition to the Water plants, will be found the Sacred Bean (*Nelumbium speciosum*), Papyrus, Sugar-cane, Rice, Cotton, the Bottle-gourd, and an interesting vine (*Vitis gongylodes*), the branches of which, in autumn, terminate in bell-pull-like tubers. In summer numerous interesting *Cucurbitaceae* are trained around the sides of the house. Among them are the Wax gourd (*Benincasa cerifera*), the Bottle gourd (*Lagenaria vulgaris*), the Vegetable sponge (*Luffa aegyptiaca*), the Snake gourd (*Trichosanthes anguina*), and a few others of peculiar beauty. Among curiosities in this house are *Salvinia*, some leaves of which are dissected and perform the function of roots, and *Azolla caroliniana*, each tiny leaf of which has a cavity where resides *Anabaena Azollae*, a low type of Alga allied to Nostoc.

Tropical Fern House.

The Tropical Fern House contains a representative collection of Ferns. A climbing fern (*Lygodium scandens*) may be found in beautiful fructification on the roof. Opposite the door is a fine specimen of *Polypodium quercifolium*, striking in the contrast of its barren and fertile fronds, and on the left *Selaginella Wildenovi* always claims attention. On side shelf to right is a fine plant of the rootless *Psilotum triquetrum*, the root-function being performed by underground branches of the stem. *Lycopodium squarrosum* and *L. Phlegmaria*, suspended in baskets from the roof, are representatives of an interesting genus allied to the latter. At the end of the house is a collection of the striking Stag's-horn Ferns (*Platycerium*).

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Orchid House.

The Orchid House, in addition to Orchids, contains some of the Insectivorous plants, among which may be found the rare *Heliamphora nutans* from Roraima in British Guiana. Nepenthes are represented by rare original species, as well as by the more common hybrids, *N. Mastersi* among these being the best. On the trophy opposite the door note the "Old Man's Beard" (*Tillandsia usneoides*), of the Pine-apple order, which flourishes hanging from a wire. In this house (S.-W. corner) are several of the tropical epiphytic species of *Utricularia*, which, like our British aquatic species, are provided with bladders for the capture of insects. All the principal genera of Orchids are represented, a number also of hybrids, and besides a variety of the most striking and scientifically interesting. The Vanilla plant (*Vanilla planifolia*) one of the very few of economic interest, will be found inside the door on the left. In this house are plants of the highly remarkable *Welwitschia mirabilis* from the sandy country of Western Africa, from about 14° 20′ to 23° 0′ which has two leaves only that last the entire life of the plant. It belongs to the order *Gnetaceae*, of the naked-seeded sub-class to which belong also the Conifers and Cycads. It has an extraordinary obconical stem with a table-like top from the edges of which proceed the two leaves, with age and injury torn to shreds. It should be seen in the Botanical Museum of the Botany School. Near the *Welwitschia* are plants of *Myrmecodia* in the tuberous stems of which are galleries made it is said for the accommodation of ants. It is curious that the smallest seedlings show the beginning of a gallery.

Succulent House and Cactus House.

The Succulent House and Cactus House are always highly instructive on the effect of environment in evolution, and the collections are very efficient from this point of view. In the Succulent House will be found *Aloe plicatilis*, exceptional in its branching habit (central stage), the Senecios or Groundsels of S. Africa, the Mesembryanthemums and most of the choicest of similar plants grown in this country. The insectivorous genera, *Sarracenia*, *Drosera*, *Dionaea*, *Cephalotus*, *Darlingtonia*, and *Drosophyllum*, are exhibited here in

the summer. At other times they are grown in a private "Pit." On the roof, next Corridor, is *Solanum Wendlandi*, perhaps the finest of all the Potato genus. In the Cactus House are numerous choice Stapelias and Euphorbias, in addition to the Cacti. Particularly fine on the roof is *Epiphyllum Gaertneri*, a cactus with orange-red flowers. On leaving the range observe on the further side of the border a good example of the Cork Oak (*Quercus Suber*). In autumn *Cotoneaster horizontalis*, nearly opposite the door, is a beautiful feature with its red berries.

At the back of the range are five houses used chiefly for nursery purposes, to which the public are not usually admitted. In one of these houses, however, are the Filmy ferns, Liverworts, the so-called Luminous Moss (occasionally), and other plants not grown elsewhere, which may be seen on application by those who are especially interested. Another house is devoted to the raising of plants for use in the study of the Mendelian theory.

Gardens.

Close to the east end of the Plant-Houses is the ROCKERY, upon which many choice plants from the Alps, Pyrenees, Himalayas, and other mountainous regions are cultivated. The plants of interest are numerous, and include a fine specimen of *Hedysarum multijugum*, *Aphyllanthes monspeliensis*, or Flowering rush, *Erinacea pungens*, the Edelweiss, rare species of *Erodium* or Stork's-bill, and many Saxifragas, etc.

West of the rockery will be found several new beds containing plants which are arranged from the point of view of physiology. In one bed are Xerophytes, selected to represent the types of vegetation which, in different parts of the world, are adapted to dry climates, and all structurally suited, on different plans, to withstand drought. In another bed are the Halophytes, or plants which grow more or less exclusively in the presence of salt. Another bed contains those plants which mostly require peat, and are poisoned by chalk or lime. A fourth bed contains the plants that are native on chalk in the neighbourhood, and a fifth the plants which also need chalk but which are not native of the country.

Pass next in front of the houses and note many plants flourishing in the sheltered borders, and among them a variety of choice bulbs. In some of the recesses are groups of certain

Natural Orders like the *Zingiberaceae* and *Bromeliaceae* that elsewhere are grown only in plant houses; of the latter order note a magnificent *Puya chilensis*. Notice the Japanese hardy Orange (*Citrus trifoliata*), which recently has been used to cross with common Orange in order to obtain hardier forms. It is growing against the end of the Tropical Fern-house, where its strong green spines and branches at once fix attention. Crinums are particularly fine, so also *Kniphofia caulescens*, and especially the hardy Cacti, at present unequalled in this country. Immense masses of *Opuntia cantabrigiensis*, a fine mass of *O. bicolor* and *O. monacantha* may be noted among others. *O. robusta* is the finest but also the most tender. One of the great successes is *Gerbera Jamesoni*, a splendid Cape Composite which flowers in summer. In this garden it has been crossed with *Gerbera viridifolia* and the resulting hybrid in a great variety of colours is now grown in the South of France for the Paris markets. Here may be found the Caper plant (*Capparis spinosa*), the Olive (*Olea europaea*) and a full collection of the New Zealand Veronicas. Near the Puya is a curious and almost leafless *Clematis* the *C. aphylla* of New Zealand. Continuing in the same direction along the path that goes round the garden we pass a mixed border of ornamental hardy plants, in which is a specimen of the Compass Plant (*Silphium laciniatum*), well known on the North American prairies for the north and south disposition of its young leaves. Longfellow writes in his *Evangeline*:

> "Look at this delicate flower that lifts its head from the meadow,
> See how its leaves all point to the north, as true as the magnet;
> It is the Compass flower that the finger of God has suspended
> Here on its fragile stalk, to direct the traveller's journey
> Over the sea-like, pathless, limitless waste of the desert.
> Such in the soul of man is faith."

On our left is a fine collection of Willows, nearly complete as to British species. In the immediate foreground may be noticed an oval bed which in summer is planted with ornamental economic plants, such as Hemp, Tobacco, Castor-oil, Maize, etc., etc.

Beyond in the same direction is the Bog Garden or Water Garden, in which the plants of the Fens are represented. Here, besides water plants, are grown Ferns and other mois-

ture-loving plants. Observe a magnificent mass of the remarkable *Saxifraga peltata* of California, the Royal Fern, *Osmunda regalis*, fine masses of *Onoclea sensibilis* and *Nephrodium Thelypteris*, both fine ferns, the latter a native of our Fens. Outside the gate is an exceptionally fine mass of *Lathraea Clandestina*, parasitic on willow. Near it also the British *L. squamaria* is well established. Close by on the opposite side of the stream is the finest plant known in this country of the North American Papaw (*Asimina triloba*). It is over 14 ft. high, and is 16½ ft. through. Almost overhanging is a fine tree of the Californian Redwood (*Sequoia sempervirens*), which, attaining a height of nearly 300 ft., takes the second place in size among the gigantic Coniferous trees of North-West America. The first place in size is taken by *Wellingtonia gigantea*, which reaches a height of over 300 ft., and as we presently pass the Trumpington Road Gate a good specimen will be seen on our left.

This garden is usually locked, but those who are interested are admitted on application at the Office

In a bed between the stream and the pond is an exceptionally fine collection of Hardy Bamboos.

Trees.

At the end of the border just quitted commences the botanical arrangement of the belt of trees which goes round the garden. It commences here with *Magnolia* and ends with Oak on the far side of the houses. By the stream where it goes under the path observe a magnificent mass of *Pterocarya caucasica*, an ally of the Walnut. Almost opposite this mass is a fine specimen of *Rosa macrophylla* remarkable not for large leaves but for its long sepals. Close by is an example of the Black Walnut (*Juglans nigra*), a valuable timber tree of North America, and of fast growth in Europe. The fine tree on the left is *Ailantus glandulosa*, a native of China and India, upon which is fed the silk moth (*Bombax Cynthia*). From this point (*right*) as far as the gate are the Sycamores and Horse-chestnuts. On the left side are beds filled with a variety of choice shrubs, and among them may be mentioned the peculiar graft-hybrid *Cytisus Adami*. It was produced by grafting *C. purpureus* on laburnum, the result being that

inflorescences of the species, and of an intermediate, are liable to appear in different places all over the tree. Here may be seen a fine hardy *Eucalyptus*, known as *E. Gunnii*, and some of the remarkable species of Rubus recently introduced from China. By the pond observe fine specimens of *Gunnera manicata*, a gigantic herbaceous plant from Brazil, allied to the insignificant Mare's-tail growing in the pond itself.

Passing the entrance from the Trumpington Road note the Lime-tree planted 2nd November, 1846, by the Rev. R. Tatham, D.D., Master of S. John's College, to record the commencement of the planting of the garden on this site. At this entrance the fine iron gates from the old Botanic Garden in Downing Street were erected in 1909. From this point a broad walk flanked with various Coniferae extends to the lawn in front of the Plant Houses, from the middle of which another broad walk, crossing the first like the top of a T, extends to the opposite side of the garden. Continuing our former course we pass (*right*) a collection of Limes, among which is a fine specimen of *Tilia petiolaris*. Further on is a handsome example of *Ulmus montana pendula*, and beyond are the *Oleaceae* and the *Rosaceae*. Note the Herbaceous ground (*left*) where plants with annual stems are arranged in natural orders for study At the foot of the rising ground is a bed of medicinal plants, and on the further side of this bed is an exceptionally fine specimen of the Judas-tree (*Cercis Siliquastrum*). Near the last is a specimen of the Kentucky Coffee-tree (*Gymnocladus canadensis*), valuable for its timber and much planted for ornament. Its seeds were used by early settlers as a substitute for coffee. Further on is a bed devoted to samples of the more uncommon agricultural crops, and behind is an interesting collection of Vines growing on arched supports. Having reached the end of the broad walk leading to the Plant-Houses we have a good view of the belt of *Coniferae*. This most important and interesting natural order is allied to that of the tropical Cycads, both belonging, with a third order, the *Gnetaceae*, to the ancient group of flowering plants which has not evolved so far as to enclose its seeds within an ovary. There are many fine specimens, and one of those nearest to us, *Biota orientalis pendula*, is probably the finest in the country. It is quite

unlike *B. orientalis*, of which it is only the juvenile form continued to mature age. Behind the belt of *Coniferae* are many trees to which reference might be made. Nearly all the catkin-bearing trees are there situated, the principal among which are the Birches, Alders, Planes, Oaks, and Hornbeam. On reaching the houses we complete the circuit of the garden; the central groups also deserve inspection, but we shall only note, further, a remarkable specimen of *Ephedra nebrodensis var. procera*, which grows near the pond by the collection of Roses, no doubt the finest of its kind in Britain. It represents the order *Gnetaceae* mentioned above.

The trees and shrubs of this garden have been described by a great authority as a remarkable assemblage; a number are finer than any of the same kind elsewhere and those who wish may inspect the following that we have not hitherto mentioned:

Acer creticum, in the collection near the walk, 16 ft. high and the finest healthy specimen in this country; *Betula papyrifera*, the Paper Birch, 47 ft. 6 ins. high at the back of the belt of Coniferae; *Crataegus tanacetifolia*, in the collection at the end of the Broad Walk, from the Plant-houses; *Garrya elliptica*, a large mass near the Aquarium; *Larix pendula repens*, forming a remarkable arch over the walk at the back of the belt of *Conifera*; *Pinus Gerardiana* over 11 ft. high, of great interest and importance, by the Rockery, *Quercus obtusata*, a hardy Mexican Oak of great interest and a perfect specimen, 39 ft. high, by the Broad Walk, beyond the Rose bed; *Juniperus excelsa*, almost up to record height near the Rockery; *Pinus montana var. uncinnata*, 11 ft. 6 in. high, about the middle of the belt of *Coniferae*, *Xanthoceras sorbifolia*, on the Curator's house by the office; *Paulowina imperialis*, 23 ft high on the left going to the Herbaceous ground from the office and *Hippophae salicifolia*, 45 ft. high in view from the last specimen against the Poplars. A reference plan to the principal trees will be found hanging in the west porch of the corridor which connects the Plant-houses. An account of the Garden by the Curator will be found in the *Journal of the Royal Horticultural Society*, Vol. XLI. Part I.

A Catalogue of the Ferns and Fern Allies may be purchased at the Curator's Office. Price 4*d*.

CHRONOLOGICAL SUMMARY.

WILLIAM I. (1066-1087).

1068. Cambridge Castle built.

WILLIAM II. (1087-1100).

HENRY I. (1100-1135).

1101. Town granted in fee-farm to Burgesses.
1112. Augustinian Priory of S. Giles removed to Barnwell.
1133. Benedictine Nunnery of St Radegund founded.
1135. Hospital of S. John founded.

STEPHEN (1135-1154).

HENRY II. (1154-1189).

RICHARD I. (1189-1199).

JOHN (1199-1216).

1199. Hospital of Lepers at Sturbridge founded.
1201. Charter granted to Burgesses.
1211. Sturbridge Fair granted to Hospital of Lepers.
1215. Town enclosed: ditch probably dug.

HENRY III. (1216-1272).

1224. Arrival of Franciscan Friars.
1229. Sheriff to expel all clerks (scholars) excommunicated for adhesion to Louis of France (earliest allusion to University).
1231. Writs issued for regulation of scholars.
1249. Arrival of Carmelite Friars.
1267. King's Ditch dug or enlarged.

EDWARD I. (1272-1307).

1274. Merton College (Oxford) receives final statutes.
1284. Peterhouse founded.

EDWARD II. (1307-1327).

1317. The King supports scholars at Cambridge.
1324. Michael House founded.
1326. Clare Hall founded.

EDWARD III. (1327-1377).

1337. King's Hall founded.
1340. Hostel assigned to student-monks from Ely, now part of Trinity Hall.
1347. Pembroke Hall founded.
1348. Gonville Hall founded.
1350. Trinity Hall founded.
1352. Corpus Christi College founded.

RICHARD II. (1377-1399).
HENRY IV. (1399-1413).
HENRY V. (1413-1422).
HENRY VI. (1422-1461).

1428. Hostel assigned to student monks from Croyland, afterwards Buckingham College.
1430. Diocesan authority of Bishop of Ely over University abolished.
1440. Eton College: first scheme issued by the King.
1441. King's College: site of Old Court conveyed to King. Foundation laid of Old Court by King (2 April).
1443. Eton College opened. Final scheme for the two Colleges at Eton and Cambridge published by King.
1446. King's College: foundation of Chapel laid by King (25 July).
1448. Queens' College: foundation laid (15 April).

EDWARD IV. (1461-1483).

1475. S. Catharine's Hall founded.

RICHARD III. (1483-1485).
HENRY VII. (1485-1509).

1496. Jesus College founded.
1503. Lady Margaret's Professorship of Divinity founded.
1505. Christ's College founded.
1508. Work at King's College Chapel resumed.

HENRY VIII. (1509-1547).

1510. Erasmus begins residence at Cambridge.
1511. S. John's College founded.
1515. Stone-work of King's College Chapel finished.
1521. John Siberch printing at Cambridge.
1539. Suppression of the Monasteries.
1540. Creation of Regius Professorships in Divinity, Law, Physic, Hebrew, and Greek.
1542. Magdalene College founded.
1546. Trinity College founded.

EDWARD VI. (1547-1553).
PHILIP AND MARY (1553-1558).

1557. Gonville Hall refounded as Gonville and Caius College.

ELIZABETH (1558–1603).

1570. Statutes given to the University.
1584. Emmanuel College founded.
1594. Sidney Sussex College founded.

JAMES I. (1603–1625).

1616. Queens' College: Walnut Tree Court building begun.
1624. St John's College: Library built by Abp Williams.

CHARLES I. (1625–1649).

1628. Sidney Sussex College: building on S. side of Second Court begun.
,, Peterhouse: Chapel begun.
1632. Emmanuel College: Brick Building begun.
1638. Clare College: rebuilding begun.
,, Jesus College: range on east side of Entrance Court begun.
1640. Christ's College: first stone of Fellows' Building laid.

COMMONWEALTH (1649–1660).

1659. Pembroke College: Hitcham Building begun.

CHARLES II. (1660–1685).

1663. Pembroke College: new Chapel begun.
1668. Emmanuel College: new Chapel begun.
1673. S. Catharine's College: rebuilding begun.
1676. Trinity College: foundation of new Library.
1679. Magdalene College: Pepysian Library in progress.

JAMES II. (1685–1688).

WILLIAM AND MARY (1689–1702).

1696. Dr Bentley undertakes renovation of University Press.

ANNE (1702–1714).

1704. S. Catharine's College: new Chapel consecrated.

GEORGE I. (1714–1727).

1715. Bishop Moore's Library given by the King.
1722. Senate House begun.
1724. King's College: Fellows' Building begun (25 March).

GEORGE II. (1727–1760).

1755. Façade of University Library begun.

GEORGE III. (1760–1820).

1800. Downing College founded.
1815. Battle of Waterloo.

George IV. (1820–1830).

1821. Sidney Sussex College altered by Wyatt.
1823. King's College: design by Wilkins for new buildings accepted (30 June).
,, Corpus Christi College: first stone laid of New Court (2 July).
,, Trinity College: first stone laid of New Court (12 August).
1825. Peterhouse: first stone of Gisborne Court laid (30 August).
1827. S. John's College: New Court begun.

William IV. (1830–1837).

1831. University Press: first stone of new building laid (18 October).

Victoria (1837–1901).

1850. Appointment of a Royal Commission of Inquiry.
1863. New Museums of Science begun.
1869. College for Women (afterwards Girton College) founded at Hitchin.
1870. Courses of Lectures for Women begun in Cambridge.
,, Provision for teaching Physiology.
1871. Act to alter Law respecting Religious Tests.
1872. Girton College opened.
1874. Cavendish Laboratory built.
1875. Old Hall, Newnham, opened.
1879. Ridley Hall founded.
1882. Selwyn College, Public Hostel, incorporated.
,, University Statutes approved by Queen in Council.
1888. Chemical Laboratory finished.
1894. Act to amend jurisdiction of Vice-Chancellor.
,, Laboratory for Mechanism and Engineering opened.
1896. S. Edmund's House opened.
1899. Westminster College buildings opened.
,, Westcott House opened.

Edward VII. (1901–1910).

1903. Squire Law Library and Law School begun.
1904. New buildings for Medicine, and
,, Sedgwick Memorial Museum, and
,, Botany School opened.
1909. Magdalene College: Bright buildings opened.
1910. School of Agriculture opened.

George V.

1913. Psychological Laboratory opened.
1914. Physiological ,, ,,
,, Emmanuel College: North Court opened.
1915. Cheshunt College: New buildings opened.
1919. New Regulations for the Previous Examination, Part I, allowing alternatives to Greek.

INDEX.

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